

s 9(2)(a)

18-D-02157

Tēnā koe s 9(2)(a)

Thank you for your email of 15 October 2018, requesting the following information under the Official Information Act (1982):

- *"Substantial parts of "Document 1" have been redacted. The only reason given for redactions is "Section 9(2)(a) to protect the privacy of a natural person." The redactions undertaken appear to go way beyond that. Can you please provide Document 1 without redaction except for the names of people who need to be protected."*
- *"Can you please provide correspondence from the Ministry (including emails) that detail the supplementary information sought from TDC, along with a copy of the TDC responses."*

#### Clarification of scope

To ensure your expectations were going to be met, we discussed the scope of your information requests with you over the phone, on 1 November. During this discussion, we explained to you that parts of "Document 1" were 'out of scope' of your request, rather than having been redacted.

On this basis, we revised the scope of your current request as follows:

- *"Can you please provide correspondence from the Ministry (including emails) that detail the supplementary information sought from TDC, along with a copy of the TDC responses."*

#### List of Documents relevant to your information request

We have identified four documents that contain information relevant to your request. These are listed in the table below:

Request	Documents in scope
<i>"Can you please provide correspondence from the Ministry (including emails) that detail the supplementary information sought from TDC, along with a copy of the TDC responses."</i>	<p>Email correspondence between MfE and TDC (1) (Document 1)</p> <p>Email correspondence between MfE and TDC (2) (Document 2)</p> <p>Tasman District Council resource consent (Document 3)</p> <p>Tasman District Council Freshwater Improvement Fund Application 2017 - Additional Information (Document 4)</p>



### Supplementary information

We have also identified another two sources of information relating to the subject of your requests, the Waimea Dam. This information has been out of scope of the OIA requests you have submitted to date, however, the Ministry recognises they be of interest to you, by providing additional supplementary information. These are listed in the table below.

Source	Description
Update on Waimea Dam (Freshwater Improvement Fund Project) (Document 5)	A briefing prepared by the Ministry, to update Minister Parker on the status of the Waimea Dam application to the Freshwater Improvement Fund.
<a href="http://waimeawater.nz/documents/">http://waimeawater.nz/documents/</a> (Web link only)	This web page lists key Waimea Dam documents available for download.

### Opportunity to review this decision

You have the right to seek an investigation and review by the Ombudsman of this decision. Information about how to make a complaint is available at [www.ombudsman.parliament.nz](http://www.ombudsman.parliament.nz) or Freephone 0800 802 602.

Nāku noa, nā



Shaun Lewis  
Director, Mana Honohono - Investments and Partnerships

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the Official Information Act 1982

List of documents

Document no.	Document date	Content	Decisions	OIA sections applied
1	6 July 2017	Email correspondence between MfE and TDC (1)	Released in part	s9(2)(a)
2	24 July 2017	Email correspondence between MfE and TDC (2)	Released in part	s9(2)(a)
3	24 July 2017	Tasman District Council resource consent	Released in full	
4	18 July 2017	Tasman District Council Freshwater Improvement Fund Application 2017 - Additional Information	Released in full	
5	26 November 2017	2017-B-03986 Update on Waimea Dam	Released in part	s9(2)(a)

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# Document 1

**From:** [Heather Penny](#)  
**To:** [Dennis.bush-king@tasman.govt.nz](mailto:Dennis.bush-king@tasman.govt.nz)  
**Subject:** Application to the Freshwater Improvement Fund  
**Date:** Thursday, 6 July 2017 12:02:00 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)

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Kia ora Dennis,

Many thanks for speaking to me now in relation to your application to the Freshwater Improvement Fund. As we discussed, the Minister is currently in the process of making his decision on which projects to fund, having considered the feedback provided by an independent assessment panel.

The panel considered your application for the 'Waimea Water Project' against all of the fund's assessment criteria. They indicated that the project budget as presented is very high-level, and that it was difficult to determine the specific environmental outcomes that would be attributed to the funding from the Freshwater Improvement Fund.

The Minister recognises the potential of supporting this initiative and would like to give you the opportunity to consider the panel's feedback, prior to making his final decision.

In our discussion, you described how you could provide further information on how funding can be allocated to specific outcomes, eg environmental flows, urban supplies, biodiversity improvements. It would be useful if you could provide information to this effect to address the panel's concerns. Similarly, it would be useful if you could provide more detail on the proposed budget, which is currently presented as high-level aggregated costs (eg capital costs = \$75 million, other misc = \$648,000 et cetera).

Note that given the amount of funding you have requested, we also strongly recommend that you factor an annual independent financial audit into your project budget (this would ideally be without the total project cost increasing above what you have identified).

If you require a copy of your application please let me know. We are able to accept a revised application and/or additional supporting information no later than **Thursday 20 July (5pm)**, ideally sooner if possible.

I must reiterate that this is not a guarantee of funding. The Minister is responsible for making the final decisions on which project to fund.

If you have any questions, then please feel free to give me a call/email at any time.

Regards  
Heather

**Heather Penny – Senior Analyst, Hono Tahua – Communities & Freshwater Investments**

Ministry for the Environment – Manatu Mo Te Taiao

Mob: **s 9(2)(a)** Website: [www.mfe.govt.nz](http://www.mfe.govt.nz)

3 The Terrace, PO Box 10362, Wellington 6143

Document 1



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## Document 2

**From:** [Dennis Bush-King](#)  
**To:** [Heather Penny](#)  
**Cc:** [Rob Schick](#)  
**Subject:** RE: Additional information Requested - Tasman FIF Application  
**Date:** Monday, 24 July 2017 4:29:00 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.jpg](#)  
[image006.png](#)  
[image007.png](#)  
[140540-Decision-Inc Env Crt Changes-Final Copy-Amended After Transfer-28....pdf](#)  
**Importance:** High

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Hi Heather

Have sent copy of consent through already but here it is again.

To answer your other question I would genuinely argue that the environmental benefits of the scheme do go beyond the requirements of the resource consent. In fact many of the consent conditions were actually proposed by us as the applicant to ensure there was a win-win for the environment – they were consciously built into the augmentation proposal right from the start – reflecting also the widespread community interests involved in developing the proposal – ie DoC, Fish and Game, iwi as well as consumptive water users.

Augmenting the supply of water over summer when it is needed will improve ecological conditions in the Wairoa/Waimea River – this is axiomatic and not an outcome of getting resource consent. Of course if consent was not forthcoming, I accept the improvement to the environment would also not be forthcoming.

Do I read into the question that there is a concern we are only doing the environmental enhancements because we are obligated under the resource consent? There is a self-reinforcing link but improving environmental flows and minimising future environmental risks has underpinned the whole project while also achieving some of the other objectives of improving water security of supply, improving access to water, reducing over-allocation of the resource. [Meeting the objectives of the NPS – FW is also another driver for the augmentation proposal albeit only since 2014. But if the NPS is about achieving desirable environmental outcomes, then this project will reduce over-allocation.]

Does this help or am I missing something?

Dennis

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**From:** Heather Penny [mailto:Heather.Penny@mfe.govt.nz]  
**Sent:** Monday, 24 July 2017 12:07 PM

## Document 2

**To:** Dennis Bush-King <Dennis.Bush-King@tasman.govt.nz>

**Cc:** Rob Schick <Rob.Schick@mfe.govt.nz>

**Subject:** RE: Additional information Requested - Tasman FIF Application

Hi Dennis,

We finally managed to speak – apologies for the phone issues, I'll get that checked out.

As we discussed, it would be great if you could provide some additional clarification in relation to the environmental benefits which you have provided, specifically:

- i. Are the environmental benefits proposed by the project over and above the requirements of the resource consent, and if so, to what extent?
- ii. If you could, it would be great if we could have a copy of the consent itself.

If you could respond by close of play today then that would be much appreciated. I have cc'd my colleague Rob Schick into this email as I am in a number of meetings today / over the next few days.

Regards

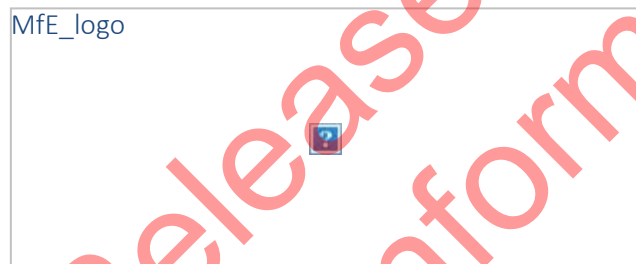
Heather

**Heather Penny – Senior Analyst, Hono Tahua – Communities & Freshwater Investments**

Ministry for the Environment – Manatu Mo Te Taiao

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**From:** Dennis Bush-King [<mailto:Dennis.Bush-King@tasman.govt.nz>]

**Sent:** Monday, 24 July 2017 11:04 a.m.

**To:** Heather Penny

**Subject:** RE: Additional information Requested - Tasman FIF Application

**Importance:** High

Hi Heather

Am having trouble getting through to your number. Do you want to try me – I am back in my seat now

Dennis

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## Document 2

**From:** Heather Penny [<mailto:Heather.Penny@mfe.govt.nz>]  
**Sent:** Monday, 24 July 2017 10:32 AM  
**To:** Dennis Bush-King <[Dennis.Bush-King@tasman.govt.nz](mailto:Dennis.Bush-King@tasman.govt.nz)>  
**Subject:** RE: Additional information Requested - Tasman FIF Application

Good morning Dennis,

I hope you had a lovely weekend – I wondered if you could please give me a call today in relation to the information you've provided us for your application to the Freshwater Improvement Fund – note I have a new number **s 9(2)(a)**.

Look forward to speaking soon,

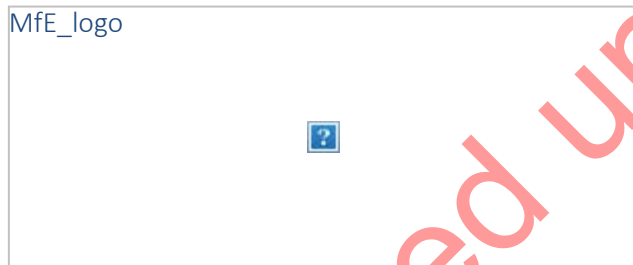
Heather

**Heather Penny – Senior Analyst, Hono Tahua – Communities & Freshwater Investments**

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**From:** Dennis Bush-King [<mailto:Dennis.Bush-King@tasman.govt.nz>]  
**Sent:** Tuesday, 18 July 2017 8:56 a.m.  
**To:** Heather Penny  
**Subject:** Additional information Requested - Tasman FIF Application  
**Importance:** High

Hello Heather

Thanks again for the chat this morning. Here is the text confirming the matters we have discussed – hopefully it meets your needs. Please let me know if we can help further.

Dennis

**Dennis Bush-King**

Environment and Planning Manager

DDI **s 9(2)(a)** | Mobile **s 9(2)(a)** | [Dennis.Bush-King@tasman.govt.nz](mailto:Dennis.Bush-King@tasman.govt.nz)

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## Document 2



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# Document 3



## RESOURCE CONSENTS

**RESOURCE CONSENT NUMBERS:** RM140540, RM140542 - RM140559

Pursuant to Section 104B of the Resource Management Act 1991 ("the Act"), the Tasman District Council ("the Council") hereby grants resource consent to:

***Tasman District Council & Waimea Community Dam Limited***  
(hereinafter referred to as "the Consent Holder")

Transferred from Tasman District Council on 28 October 2015

### CONSTRUCTION ACTIVITIES AUTHORISED BY THESE CONSENTS:

Activity	Application Number
<b><i>Take, dam, divert, use water:</i></b>	
Construction water take from the Lee River including for 'domestic' use	RM140544
Diversion of the Lee River during construction	RM140546
<b><i>Structures, bed disturbance:</i></b>	
Temporary diversion, access and damming structures including: <ul style="list-style-type: none"><li>▪ Culverts, fords, and/or bridges crossing the Lee River and its tributaries</li><li>▪ Diversion culvert in the Lee River</li><li>▪ Diversion wall along true right bank of the Lee River</li><li>▪ Cofferdam and starter dams in the Lee River</li><li>▪ Vehicles crossing the bed of the Lee River and its tributaries</li></ul>	RM140545
Bed disturbance associated with construction of a dam	RM140547
Gravel excavation from the Lee River bed and tributaries for material to build a dam and geotechnical testing	RM140548
<b><i>Discharges:</i></b>	
Discharge of sediment to the Lee River and its tributaries from land and bed disturbance activities	RM140549
Discharge of sediment to land from land disturbance	RM140550
Discharge of dust to air	RM140551
Discharge of stormwater during construction to land and water	RM140552

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<b>Land use:</b>		
Land disturbance (removal and disposal of vegetation, excavation of material to build the dam, roading and tracking for dam construction and operation purposes, and reservoir slope stabilisation/preparation)		RM140553
Geotechnical testing, including boreholes and test pits		RM140554
Rural industrial activity (aggregate processing and concrete batching)	Rural 2 Zone	RM140542
Indigenous vegetation and indigenous forest removal	Rural 2 Zone	RM140543
	Conservation Zone	
Storage of hazardous substances	Rural 2 Zone	RM140555

### OPERATIONAL ACTIVITIES AUTHORISED BY THESE CONSENTS:

<b>Activity</b>	<b>Application Number</b>
<b>Take, dam, divert, use water:</b>	
Take, diversion and use of water from the Lee River	RM140556
Damming of the Lee River (permanent) and associated discharges to the Lee River (of sediment from the dam spillway; of contaminants from the during maintenance; of water to water through the dam including for maintenance and flushing flows) and hydropower generation	RM140557

<b>Structures, bed disturbance:</b>	
Construction, operation, use and maintenance of a dam and associated structures	RM140540
<b>Discharges:</b>	
Discharge of sediment to the the Lee River and its tributaries from land and bed disturbance activities (during maintenance)	RM140558
Discharge of sediment to land from land disturbance activities (dam and reservoir maintenance works)	RM140559

### LOCATION DETAILS:

Legal description:

Sec 5 Blk II Rintoul SD, Sec 4 Blk II Rintoul SD, Lot 1 DP 350533, Sec 12 Blk II Rintoul SD, Sec 8 Blk II Rintoul SD, Lot 1 and Lot 2 DP 14351, Sec 13 Blk II Rintoul SD, Mt Richmond Forest Park and Pt Sec 10 Blk II Rintoul SD (Conservation land), Beds of Lee River and Waterfall Creek (Crown land), and Unformed Legal Roads

Easting and Northing:

1613437 E, 5409020 N NZTM

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### Definitions and Abbreviations used in these consents:

BMP	Biodiversity Management Plan
BTAG	Biodiversity Technical Advisory Group
CEAP	Construction Emergency Action Plan
CEMP	Construction Environmental Management Plan
Council	Where any condition refers to submitting information, documents, or notification to 'the Council' it shall mean the Council's Coordinator Compliance Monitoring (in the first instance)
CTMP	Construction Traffic Management Plan
EAP	Emergency Action Plan
EPT	Ephemeroptera, Plecoptera, and Trichoptera
ESCP	Emergency and Spill Contingency Plan
FFRP	Flushing Flow Release Plan
MCI	Macroinvertebrate Community Index
NZSOLD	New Zealand Society on Large Dams
OMP	Operational Management Plan
QMCI	Quantitative Macroinvertebrate Community Index
RRWMP	Reservoir Release Water Management Plan
Reservoir WQMP	Reservoir Water Quality Monitoring Programme
River WQMP	River Water Quality Monitoring Programme
SCEMP	Supplementary Construction Environmental Management Plan
VCP	Vegetation Clearance Plan

# Document 3

## CONDITIONS

Pursuant to Section 108 of the Act, this consent is issued subject to the following conditions:

### GENERAL CONDITIONS THAT APPLY TO ALL CONSENTS AND ACTIVITIES

- 1 The activities authorised by these consents shall be undertaken in general accordance with the application for resource consents and associated assessment of environmental effects entitled 'Waimea Water Augmentation Committee – Assessment of Environmental Effects' (Volumes 1 and 2) prepared by Tonkin & Taylor Limited, dated July 2014, the Section 92 responses from Anderson Lloyd dated 6 October 2014, Cawthron Institute (Young and Hay) dated October 2014, and Tonkin and Taylor dated 6 October 2014. If there is any inconsistency between any conditions and the application documents referred to above, the conditions shall prevail.
- 2 Pursuant to Section 125(1) of the Resource Management Act 1991, these consents shall lapse if not given effect to within seven years of the date of their commencement. The consents related to construction activities shall expire 10 years after the date of commencement and the consents related to ongoing operation activities shall expire 35 years after the date of commencement.
- 3 The Council may, within three months following the first anniversary of the granting of these consents and thereafter at six monthly intervals for the duration of these consents, review any or all of the conditions of these consents pursuant to Section 128 of the Resource Management Act 1991 for any or all of the following purposes:
  - (a) to deal with any adverse effects on the environment that may arise from the exercise of these consents and which it is appropriate to deal with at a later stage;
  - (b) to require the adoption of the best practicable option to remove or reduce any adverse effect on the environment;
  - (c) to amend the frequency, parameters, and location of monitoring and the parameters monitored.

**Advice Note:**

*The Council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions at any time for the following purposes:*

- (a) *to provide for compliance with rules relating to minimum standards of water quality or air quality in any regional plan that has been made operative since the commencement of these consents; or*
- (b) *to provide for compliance with any relevant national environmental standards that have been made; or*
- (c) *where there are inaccuracies in the information made available with the application that materially influenced the decision on the application and where the effects of the exercise of consent are such that it is necessary to apply more appropriate conditions.*

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- 4 The following shall apply in respect of any condition which requires the Consent Holder to provide the Council with a plan or similar document 'for certification':
- (a) the Consent Holder shall provide the plan to the Council in accordance with the timeframe specified in the applicable condition;
  - (b) where a plan is required to be prepared in consultation with any third party, the plan shall outline the extent of the consultation that has been undertaken and demonstrate how the views of that party have been incorporated, and where they have not, the reasons why;
  - (c) the Consent Holder may commence the activities for which the plan relate in accordance with the submitted plan unless the Council advises the Consent Holder in writing within 20 working days of receipt of the plan that it refuses to certify it on the grounds that it fails to meet the requirements of the condition which requires such a plan to be provided and the Council provides reasons why that view is held;
  - (d) should the Council refuse to certify the plan, the Consent Holder shall submit a revised plan to the Council for certification. Clause (c) shall apply for any resubmitted plan;
  - (e) once certified, the plan may be varied by the Consent Holder. The certification process for any variation to the plan shall follow the process outlined in (a) to (d) above.
- 5 A copy of these consents, including all conditions and the Council certified versions of all the plans required by these consents, shall be kept on-site at all times and the Consent Holder shall ensure all personnel are made aware of each plan's contents where the plan relates to activities that those personnel are responsible for.
- 6 Any condition of these consents that requires continuous monitoring to be undertaken shall, where relevant, be in accordance with the latest version of Land Air Water Aotearoa's (LAWA) National Environmental Monitoring Standards (NEMS).

### Insurance

- 7 The Consent Holder shall, at least three months prior to construction commencing and at all times thereafter, have a current public liability insurance policy on terms acceptable in all respects to the Council. The Consent Holder shall provide written confirmation that the insurance is in place to the Council.
- 8 The insurance required by Condition 7 shall be sufficient to cover all reasonable insurable contingent risks associated with the construction and operation of the dam, including offsite impacts to third party property (including damage or destruction of possessions), associated with any reasonable foreseeable failure of any part of the dam, together with a reasonable provision for reconstruction and reinstatement; and the proceeds of the insurance policy shall be applied for those purposes only.
- 9 The insurance required by Condition 7 shall provide for the following:
- (a) The Council shall be an additional insurance party and shall be able to enforce its terms.

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- (b) The Consent Holder shall ensure that the insurer is required to copy all relevant information regarding the insurance policy to the Council. This obligation includes an express term that the insurer must immediately notify the Council of any non-performance of the terms of the insurance by the Consent Holder.
  - (c) In the event of any non-performance of any term of the insurance policy, the Council shall be given the opportunity to rectify that non-performance before the insurance policy is cancelled.
- 10 The Consent Holder shall, prior to arranging the insurance required by Condition 7, obtain advice from an independent person qualified and experienced within the insurance industry to determine the limit of indemnity and coverage required to be provided for by the insurance policy. In providing that advice, that person shall ensure the purpose of the policy is met, which is to provide coverage and protection in the instance of a failure of the works authorised by these consents to third parties whose properties and possessions may be damaged or destroyed.
- 11 The Consent Holder shall provide a copy of the advice relating to the insurance policy required by Condition 10 to the Council for review and comment, and any comments and suggestions that are provided to the Consent Holder by the Council shall be taken into account and provided for within the insurance policy.
- 12 The limits of indemnity and coverage and terms of the insurance policy required by Condition 7 shall be reviewed by the Consent Holder at least every three years, and if that review results in a recommendation to amend or alter the insurance cover, then the Consent Holder shall provide a copy of the review and recommendations to the Council for certification that the amendments still achieve the requirements of Condition 8. Any amendments to the insurance cover may only occur after Council certification.

### **Biodiversity Management Plan (BMP)**

- 13 The Consent Holder shall, at least twelve months prior to the intended date of commencement of construction activities, prepare a Biodiversity Management Plan (BMP) for all biodiversity offset and compensation work. The final BMP shall be prepared in consultation with the Director-General of Conservation (or their nominee) and the Biodiversity Technical Advisory Group (required by Condition 25). The final BMP shall be submitted to the Council for certification that it:
- (a) is in general accordance with the draft BMP (Lee Dam Draft Biodiversity Management Plan, Tonkin and Taylor Limited, Ref:85731.005, November 2014);
  - (b) includes the matters and meets the objectives prescribed in conditions 14 – 19.
- 14 The objective of the BMP shall be to demonstrate how the Consent Holder will mitigate, remedy and compensate for the significant adverse effects of construction activities, inundation, and operational activities on terrestrial and freshwater ecological values, and their associated biodiversity values, including but not limited to:
- (a) Hill-slope beech forest
  - (b) Riparian kahikatea forest
  - (c) Alluvial forest

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- (d) Flood zone turf communities
  - (e) River bed island forest
  - (f) New Zealand shovel mint *Scutellaria novae-zelandiae*
  - (g) Rock coprosma *Coprosma brunnea*
  - (h) Scented broom *Carmichaelia odorata*
  - (i) River cloak daisy *Euchiton polylepis*
  - (j) Longfin eel *Anguilla dieffenbachii*
  - (k) Native land snail *Wainuia nasuta*
- 15 The BMP shall set out the methodologies and processes that will be used to achieve the objectives in Condition 14 and shall include, but not be limited to:
- (a) Ecological Management
    - (i) Personnel roles and responsibilities
    - (ii) Vegetation and habitat management in- and ex-situ, including vegetation clearance, revegetation, and enrichment
    - (iii) Measures to prevent introduction of weeds or pests to the site through importation of materials or on equipment.

**Advice Note:**

*Ecological management at the construction site is covered by the CEMP and relevant SCEMPs.*

- (b) Habitat Restoration
  - (i) A Revegetation and Enrichment Planting Plan for each area identified under Condition 18(a) – (e)
- (c) Species Management
  - (i) A Species Management Plan for each of the species identified under Condition 19.
- (d) Biodiversity Compensation Fund
  - (i) Establishment of a Biodiversity Compensation Fund of not less than \$215,000 (CPI adjusted from 15 August 2014) to be administered by the Biodiversity Technical Advisory Group (required to be established under Condition 25) for the protection, restoration or enhancement of vegetation communities or species in the Waimea River catchment, including the margins of the Waimea Inlet.

## Document 3

- (e) Ecological Monitoring and Adaptive Management
    - (i) Specific measures and/or criteria to determine the success of ecological management, mitigation and compensation;
    - (ii) Establishing a monitoring programme for indigenous communities of flood zone vegetation including turf communities downstream of the dam (proposed value \$35,000) for the purpose of determining whether the health of turf communities is maintained. If the monitoring shows deterioration in the quality of the vegetation in the zone that is impacted by changes to the flow regime following commissioning of the dam and that deterioration is likely to be attributable to the change to the flow regime then the BMP shall be amended to establish a management programme focused on the control of exotic, invasive weeds in the flood zone to improve flood zone vegetation quality as far as practicable to its pre-dam condition;
    - (iii) Specific approaches and contingency plans that will be employed to undertake adaptive management of adverse effects on terrestrial and freshwater biodiversity;
    - (iv) Where adaptive management will be applied, the measures of success of the management and the point at which alternative management will be initiated where success has not been achieved.
  - (f) In addition the BMP shall:
    - (i) Include a programme setting out timing for the selection of suitable sites for species translocation, revegetation, enrichment planting, weed control, and species management required by conditions 18, 18A, 18B and 19, 19A and 19B of this consent;
    - (ii) Demonstrate an integrated approach to the development of this BMP and the Vegetation Clearance Plan that is required by Condition 60.
- 16 The Revegetation and Enrichment Planting Plans required under Condition 15(b)(i) shall include, where relevant, the following details:
- (a) Proposed planting including plant species, plant/grass mixes, spacing/densities, sizes (at the time of planting), layout and planting methods;
  - (b) A planting programme detailing the timing and staging of planting (where planting is to be undertaken over two or more seasons);
  - (c) Detailed specifications relating to (but not limited to) the following:
    - (i) Vegetation protection (for any existing native vegetation to be retained);
    - (ii) Weed control and clearance;
    - (iii) Pest animal management;
    - (iv) Ground preparation;
    - (v) Mulching; and

## Document 3

- (vi) Plant supply and planting, which shall require:
    - 1. Any planting to reflect the natural (indigenous) plant associations of the area;
    - 2. Where practicable, the use of mixes of plants which are of a suitable richness and diversity to encourage self-sustainability once established; and
    - 3. Any native plants to, so far as practicable, be genetically sourced from the relevant Ecological District;
  - (d) A maintenance regime including monitoring and reporting requirements, which is to apply for at least three years following that planting being undertaken.
- 17 The Species Management Plans required under Condition 15(c)(i) shall include, where relevant, the following details:
- (a) Collection methods and type of material (seed, cuttings, and/or whole plants) for plant salvage, including method to maximise the genetic diversity of the material collected;
  - (b) The target number of sites at which the species will be established and the target number/ground cover extent of plants to be newly established and maintained;
  - (c) A programme, including methods, of:
    - (i) survey, assessment and selection of candidate sites for population establishment, including suitability of habitat and ecological processes for the species;
    - (ii) management of potential threats and maintaining suitable habitat;
    - (iii) ease of access for ongoing management / monitoring; and
    - (iv) legal protection of the site.
  - (d) Details of the proposed maintenance of supplementary plants in cultivation as a permanent source for any ongoing transplant material needs;
  - (e) The nature, purpose, and extent of planting trials;
  - (f) Cultivation and transplant protocols including biosecurity, timing of transplanting, methods of transplanting;
  - (g) Post planting maintenance of the populations and habitats, including supplementing new populations with additional transplants where necessary;
  - (h) Monitoring and reporting provisions;
  - (i) Resourcing needs; and
  - (j) A review period.
- 18 The Consent Holder shall undertake works necessary to ensure that a combined total of at least 39 hectares of land is dedicated to the active restoration of vegetation which shall comprise the following components:

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- (a) Active replanting of not less than 5 hectares of the temporary construction area near the dam to hill-slope beech forest,
- (b) Not less than 10 hectares of coastal duneland forest/wetland/estuarine margin restoration (mostly revegetation) on Rough and/or Rabbit Island;
- (c) Not less than 10 hectares of lowland alluvial forest restoration (revegetation) on the Waimea River bermlands;
- (d) A programme of weed control and enrichment planting into not less than 10 hectares (proposed value \$100,000) of degraded alluvial forest areas between the dam and Lucy Creek.
- (e) A programme of weed control and enrichment planting into between 4 and 20 hectares (proposed value \$200,000) of degraded alluvial and riparian forest areas within the Lee, Roding, Wai-iti and Wairoa river catchments. The location and extent of this programme will be confirmed by the BTAG required to be established under Condition 25.

**Advice Note:**

*Clause (e) is deliberately not specific in respect of the area of land that needs to have weed control and enrichment planting. The money specified is to be spent on generating gains across best management options which may result in anywhere between 4 hectares (if planted) and 20 hectares (if weed control only occurs).*

- 18A The Consent Holder shall identify, protect and restore an existing alluvial podocarp forest ecosystem of at least 2 ha in size in the Wairoa catchment. This alluvial habitat must be within regular reach of river floods.
- 18B The Consent Holder shall implement a flood zone vegetation management programme if required by condition 15(e)(ii).
- 19 The Consent Holder shall undertake works necessary for the salvage, propagation and re-establishment (as far as practicable), at sites that will be ecologically managed for long-term viability, of the following indigenous species:
- (a) Rock coprosma: Salvage of plant material, propagation and replanting/relocation to suitable habitat that collectively provide for a minimum of 50 individual rock coprosma plants being successfully established (proposed value \$40,000);
  - (b) New Zealand shovel mint: Acquire cuttings or seed from at least 140 samples in the project footprint (at least 10 from each of the 14 identified patches of New Zealand shovel mint, with several samples from the patch perimeter) and transplant or propagate and plant into at least 3 discrete suitable recipient sites;
    - (i) Suitable recipient sites shall preferentially have the following attributes:
      - Cold air ponding (for example a basin above a gorge).
      - A natural dominance (ie not caused by stock browse of broadleaved species) of small-leaved shrubs and trees in the understorey, most likely beneath a beech forest canopy.

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- Alluvial terraces that are sufficiently low so as to experience occasional flooding (on a one to five year return basis), but which are otherwise dry and do not support extensive mats of other ground cover herbs.
- Preferentially be located within the Wairoa catchment but potentially elsewhere in the Tasman Bay catchment where New Zealand shovel mint is not currently present.

Sites not meeting all of these criteria may be used subject to approval by the BTAG

- (ii) The suitable recipient sites shall collectively provide for a minimum of 20 square metres total cover (proposed value \$70,000);
- (c) Scented broom: Salvage cuttings and seed from project footprint. Propagation of eco-sourced stock and inclusion as a component of the compensation planting programme that collectively provide for a minimum of 600 mature (ie seed producing) scented broom individuals being successfully established in suitable rocky riparian habitat within the upper Wairoa catchment at sites where it is currently either absent or at very low density (proposed value \$20,000); and
- (d) River cloak daisy: Salvage whole plants in the project footprint and transplant or propagate and replant/relocate to suitable habitat within the upper Wairoa catchment at sites where it is currently either absent or at very low density that collectively provide for a minimum of 3 square metres of total cover area (ie. 100% coverage), comprising at least 10 discrete patches of river clock daisy being successfully established (proposed value \$50,000);
- (e) Longfin eel: Undertake a programme of trap and transfer of out-migrating adult long fin eels on an annual basis to assist their safe downstream migration, as a standalone trap and transfer programme;

**Advice Note:**

*Monetary values quoted in this condition are correct as at 15 August 2014 and are to be adjusted for consumer price index (CPI) until the work is undertaken.*

Native land snail *Wainuia nasuta*:

- 19A The consent holder shall contribute funds to enable a pest management programme to be undertaken with the objective of enhancing a population of *Wainuia nasuta* through effective pest management. The first payment of \$120,750 for the pest management programme shall be made to the Department of Conservation before the first anniversary of the first filling of the reservoir, with three further instalments of \$120,750 every five years thereafter until a total value of \$483,000 has been paid.

**Advice Note:**

*Monetary values quoted in this condition are not to be adjusted for consumer price index (CPI).*

- 19B Successful initial re-establishment of New Zealand shovel mint, shall be demonstrated by the consent holder and certified by the Council prior to commencement of any earthworks or construction activities associated with the dam that are likely to result in loss or damage of existing shovel mint populations within the dam and reservoir footprint. .

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- 19C Successful initial re-establishment shall be demonstrated by a report to the Council from the Biodiversity Technical Advisory Group confirming:
- (a) For New Zealand shovel mint:
- At least 80% survival of translocated plants 18 months after translocation; and
  - At least 50% of plants increasing their extent through vegetative spread; and
  - At least 10% of plants showing evidence of seed set.
- 20 Notwithstanding Condition 19, if: at any time following certification of successful initial re-establishment of New Zealand shovel mint or (ii) at any time during the implementation of any other programme, the view of the Biodiversity Technical Advisory Group (required to be established under Condition 25) is that establishment of wild populations is not achievable or is no longer achievable, the funds remaining of those specified in Condition 19 shall be used to promote the recovery of native plant species with similar or greater threat classification in the Tasman District. Any such changes shall be addressed by way of a variation to the BMP.
- 21 The Consent Holder shall, in July of each year following the commencement of construction, engage a suitably experienced and qualified ecologist to prepare a Biodiversity Compensation Programme Annual Report which sets out:
- (a) The specific work undertaken in the preceding year (1 July to 30 June);
- (b) The dollar amount spent over that period reported against the budget contained in the BMP;
- (c) The monitoring undertaken in accordance with BMP, and the results thereof;
- (d) An assessment of whether the objectives set out on the BMP are being met;
- (e) What activities are to be implemented in the following 12 months in order to meet the objectives of the BMP; and
- (f) Any recommendations for altering the focus of any of the BMP activities which it is considered would better meet the objectives of the BMP.
- 22 The Biodiversity Compensation Programme Annual Report required by Condition 21 shall be submitted to the Council by 31 July of each year. A copy of the report shall also be provided to the Biodiversity Technical Advisory Group established under Condition 25 and the Director-General of Conservation (or their nominee).
- 23 The biodiversity offset and compensation shall be undertaken in accordance with the certified BMP and the conditions of this consent. For the avoidance of doubt, compliance with this condition shall continue for the duration of the consents.
- 24 The Consent Holder shall ensure that all land on which biodiversity enhancements are undertaken in accordance with the certified BMP are legally protected, in perpetuity, for conservation purposes, through a covenant pursuant to section 108(2)(d) of the Resource Management Act 1991 or other such protection mechanism as is appropriate for that land tenure;

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- (a) prior to enhancement works commencing. Evidence of the legal protection shall be provided to the Council prior to enhancement works; and
- (b) for land on which biodiversity enhancements are proposed in Condition 19B, prior to any construction works commencing which are likely to result in loss or damage to existing shovel mint populations within the dam and reservoir footprint.

### **Biodiversity Technical Advisory Group (BTAG)**

- 25 The Consent Holder shall establish a Biodiversity Technical Advisory Group (BTAG) to provide independent advice on:
- (a) preparation of the Biodiversity Management Plan (BMP) required by Condition 13;
  - (b) implementation of the BMP;
  - (c) criteria for disbursement of funds from the Biodiversity Compensation Fund required by Condition 15(d)(i).
  - (d) monitoring of biodiversity outcomes from actions specified in the BMP and use of the Biodiversity Compensation Fund.
- 26 The BTAG shall comprise of at least three suitably qualified and/or experienced ecologists with experience in one or more of the following:
- (a) habitat restoration including, in particular, restoration of indigenous forest habitats;
  - (b) management of threatened plants, including plant propagation and translocation;
  - (c) control of pest weeds including, in particular, Old Man's Beard;
  - (d) aquatic ecology and fish passage.
- 27 The Consent Holder shall:
- (a) publicly advertise and call for expressions of interest from independent technical experts seeking selection as a member of the BTAG;
  - (b) invite the Council, the Director-General of Conservation and the Royal Forest & Bird Protection Society, or their nominee(s), to each nominate an independent technical expert(s) who could be selected as a member of the BTAG.
- 28 The Consent Holder shall invite the Council, the Director-General of Conservation and the Royal Forest & Bird Protection Society to meet to:
- (a) consider applications and nominations received under Conditions 27(a) and (b);
  - (b) certify that the applicants and nominees meet the requirements specified in Condition 26;
  - (c) appoint at least three and no more than five members to the BTAG.

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28A The membership of the BTAG may be changed provided the processes in Conditions 27 and 28 are followed.

### **Biodiversity Management Programme and Funding**

29 Each year following the commencement of construction, in the month of September, the Consent Holder shall convene an Annual Review Meeting to report on progress on the implementation and success of the BMP programme. Members of the Biodiversity Technical Advisory Group established under Condition 25, the Director General of Conservation (or their nominee), and relevant contractors shall be invited to the Annual Review Meeting which shall have the following objectives:

- (a) to review the Biodiversity Management Programme Annual Report required by Condition 21
- (b) to develop and agree an Annual Meeting Report to be provided to the Council within one calendar month of each meeting outlining the outcomes of the meeting, including any agreement with recommendations made in the report required to be prepared by Condition 25(f).

30 The Consent Holder may submit to the Council for certification a variation to the programme specified within the certified BMP, provided that the ability to meet the performance targets and overall budget provision are not reduced. Any such variation shall be consistent with the recommendations of the Biodiversity Compensation Programme Annual Report (required by Condition 21) and the Annual Meeting Report (required by Condition 29(b)) or shall otherwise state the reasons why those recommendations have not been adopted.

### **CONDITIONS TO BE COMPLIED WITH DURING CONSTRUCTION OF DAM**

#### **Construction Emergency Action Plan (CEAP)**

31 The Consent Holder shall, at least three months prior to the commencement of construction of coffer dams in the Lee River, provide to the Council a Construction Emergency Action Plan (CEAP) for certification that it has been prepared in accordance with the recommendations of the New Zealand Society of Large Dams (NZSOLD) Guidelines and relevant New Zealand dam safety legislative requirements for emergency action plans and meets the following objective and minimum requirements. The objective of the CEAP shall be to limit damage to the dam and downstream areas (including property and possessions), and prevent loss of life. The CEAP shall meet the following minimum requirements:

- (a) Identification of emergency conditions which could endanger the integrity of the dam and which require immediate action;
- (b) Prescription of procedures which should be followed by the contractor and operating personnel to initiate emergency procedures at the dam; and
- (c) Provision of timely warning to appropriate emergency management agencies for their implementation of protection measures for downstream communities

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### Construction Environmental Management Plan and Supplementary Construction Environmental Management Plans (CEMP and SCEMPs)

- 32 The Consent Holder shall, at least 20 working days prior to the intended date of commencement of construction activities, provide to the Council a final Construction Environmental Management Plan (CEMP). Supplementary Construction Environmental Management Plan(s) (SCEMP(s)) required by Condition 35 shall be provided to the Council at least 20 working days prior to the commencement of activities to which they relate. The CEMP and SCEMPs shall be submitted to the Council for certification that these plans:
- (a) are in general accordance with the draft CEMP (Lee Valley Community Dam Draft Construction Environmental Management Plan, Tonkin & Taylor Limited, Ref: 85731.005, November 2014);
  - (b) meet the objectives stated in Condition 33;
  - (c) have been prepared in accordance with, and include the matters stated in, conditions 34 and 36;
  - (d) address the receiving environment standards prescribed in conditions 42 – 46; and
  - (e) are consistent with the contents of the BMP.
- 33 The CEMP and SCEMPs shall meet the following objectives:
- (a) to avoid, where possible, adverse environmental effects and where this is not possible ensuring appropriate mitigation or remediation is undertaken;
  - (b) to minimise the extent of clearance of indigenous vegetation wherever practicable through clear demarcation of construction zones on the ground;
  - (c) to minimise riverbed disturbance to the greatest extent possible and where practical schedule works to avoid trout spawning and egg incubation periods for brown trout and koaro (April – September);
  - (d) to integrate best environmental practice into construction activities;
  - (e) to manage concrete and grouting activities to minimise the potential for discharges with elevated pH levels into aquatic environments;
  - (f) to manage materials and equipment to avoid introduction of weeds or pests to the site, including Didymo;
  - (g) for all clean water to be diverted away from earthworks areas;
  - (h) to minimise the area of exposed soil;
  - (i) to minimise disturbance of the soil mantle in the reservoir area;
  - (j) to minimise the duration of earthworks;
  - (k) for bare soil areas to be stabilised as soon as practicable following construction activities;

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- (l) for erosion and sediment controls to be installed on all soil disturbance activities to minimise sediment discharges to waterways;
  - (m) to retain topsoil wherever possible;
  - (n) to ensure that contingencies are in place for flood events, including management of debris;
  - (o) for refuelling and machinery maintenance to take place away from any waterbody;
  - (p) for the receiving environment standards specified in Conditions 42 - 46 to be met at all times;
  - (q) to avoid any adverse effects of construction activities on forestry operations as far as practicable; and
  - (r) to minimise fire risk, including through imposition of a no smoking rule for dam construction personnel.
- 34 The CEMP shall be prepared by a suitably qualified and experienced person and shall include the following as a minimum:
- (a) an outline of the proposed staging of construction activities;
  - (b) identification of potential adverse environmental effects;
  - (c) procedures for construction management;
  - (d) requirements for keeping of records, undertaking inspections and reporting;
  - (e) details of the contingency measures for those events that may cause significant adverse effects;
  - (f) details of the management of hazardous substances;
  - (g) details of the management of in-stream works including procedures for fish salvage and translocation when there is de-watering of any part of the river, or to address other localised risk to fish associated with the works;
  - (h) procedures that will be followed for demarcation of the maximum limit of the reservoir and construction area, above which no vegetation clearance or public access will be permitted.
- 35 SCEMPs shall be prepared for the following specific components of construction:
- (a) SCEMP 1 Access road to dam site – Roading improvements
  - (b) SCEMP 2 (a) Area downstream of the dam footprint – Spoil storage and disposal areas
  - (c) SCEMP 2 (b) Area downstream of the dam footprint - Site office, workshop facilities, and laydown area

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- (d) SCEMP 3 (a) Dam footprint area- Temporary coffer dams and tunnels
  - (e) SCEMP 3 (b) Dam footprint area – Western (true left) abutment
  - (f) SCEMP 3 (c) Dam footprint area – Eastern (true right) abutment
  - (g) SCEMP 3 (d) Dam footprint area – Dam embankment
  - (h) SCEMP 3 (e) Dam footprint area – Spillway
  - (i) SCEMP 3 (f) Dam footprint area – Power house (if required)
  - (j) SCEMP 4 Lower borrow and material processing area
  - (k) SCEMP 5 Upper borrow and material processing area
  - (l) SCEMP 6 Concrete batching plant (if required)
  - (m) SCEMP 7 Vegetation clearance and rehabilitation. SCEMP 7 shall be developed subsequent to, and in accordance with, the Vegetation Clearance Plan required by Condition 60.
- 36 The SCEMPs shall be prepared by suitably qualified and experienced person(s) and shall include, as relevant:
- (a) Detailed design drawings;
  - (b) Identification of personnel involved in preparing the SCEMP;
  - (c) Calculations for sizing of sediment control structures, including their minimum working water volumes that need to be maintained;
  - (d) Calculations for sizing culverts and design, including scour protection;
  - (e) Actions taken in design to minimise the extent and effects of earthworks;
  - (f) Contact details for the contractor's staff, sub-contractors and relevant Consent Holder representatives;
  - (g) The location of any sites with special landscape, ecological, cultural, or archaeological values and measures to avoid, minimise or mitigate impacts on these values;
  - (h) Work programme and staging of works;
  - (i) Location of spill kits and fire extinguishers;
  - (j) Vegetation clearance schedule detailing proposed method and timing;
  - (l) Schedule of sediment control measures with specifications;
  - (m) Revegetation schedule; and
  - (n) Monitoring schedule, including sediment accumulation rates in sediment control structures.

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- 37 Demarcation of the construction areas shall be undertaken in consultation with a suitably qualified and experience ecologist and shall be clearly identified on the ground and on the plans included in the CEMP and SCEMPs.
- 38 The Consent Holder shall comply with the certified CEMP and SCEMPs at all times.
- 39 All erosion and sediment controls shall be installed for as long as there is a potential for sediment movement arising from dam construction activities into any waterways and all such control structures shall be maintained to ensure they achieve their intended performance standards at all times.
- 40 The Consent Holders shall establish and maintain a weather station at the dam construction site that records rainfall, continuous wind speed and wind direction. Records of rainfall, wind speed, and wind direction shall be made available to the Council upon request.
- 41 The Consent Holder shall establish two monitoring sites within the Lee River, one located as close as practicable to 100 metres upstream of the upstream extent of any construction activity areas and one as close as practicable to a point located 1,000 metres downstream of all dam construction activity areas. For the purposes of this condition the 'upstream extent of any construction activity areas' shall be limited to those works specifically associated with the construction of the dam, including the gravel extraction (borrow) and material processing areas, but does not include the area further upstream where vegetation removal from the reservoir impoundment area is proposed. The Consent Holder shall undertake monitoring for the parameters and at the frequencies specified in the following table. Monitoring at both sites shall commence at least twelve months before the beginning of the construction activities (excluding investigation activities, enabling works and vegetation clearance) and cease not less than two calendar months after completion of the construction of the dam and the commencement of first filling of the reservoir.

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### Monitoring

Type	Monitoring Parameter	Frequency during 12 month pre-construction period	Frequency during construction
Laboratory Analysis	Total suspended solids	Quarterly	Fortnightly at times chosen at random during the working day
	Turbidity		
Field measurements	Visual clarity (Black disc)	Quarterly	Fortnightly at times chosen at random during the working day
	Deposited fine sediment		
	Turbidity	Once	Continuous – Telemeter to website real time
	Quantitative Macroinvertebrate Community Index (QMCI) and Ephemeroptera, Plecoptera, and Trichoptera (EPT) Taxa	Quarterly	Quarterly during the first 12 months of construction, then 6 monthly thereafter
	pH	Quarterly	Fortnightly at times chosen at random during the working day
	Dissolved oxygen (grams per cubic metres and % saturation)	Quarterly	Fortnightly between 0600 and 0900 hours

All sampling shall be carried out by a person(s) suitably qualified and experienced in environmental monitoring. All samples that are to be analysed by a laboratory shall be collected in containers supplied by the laboratory and analyses shall be undertaken by an independent laboratory accredited to IANZ. Equipment used to undertake field measurements shall be calibrated in accordance with the manufacturer's specifications to minimise measurement errors. Calibration records shall be kept and made available to the Council upon request.

- 42 The percentage reduction to the Quantitative Macroinvertebrate Community Index (QMCI) score downstream of the construction area relative to the QMCI upstream of the construction area (these two locations being in appropriately matched habitats as close as is practical to the two sites specified in Condition 41) shall not exceed 20% in combination with a 20% reduction in the densities of Ephemeroptera, Plecoptera, and Trichoptera (EPT) taxa.
- 43 The percentage reduction in visual clarity of water downstream of the construction area relative to water upstream of the construction area (these two locations being those specified in Condition 41) shall not exceed 40% at flows less than the median

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flow. This performance standard shall not apply during works in any active river channel or for a period of 9 hours after their completion.

- 44 The coverage of deposited fine sediment on the riverbed of the Lee River downstream of the construction area, as measured at the downstream monitoring site specified in Condition 41, shall be no more than 20% higher than measured at the upstream monitoring site.
- 45 The pH of the Lee River downstream of the construction area, as measured at the downstream monitoring site specified in Condition 41, shall not fall outside of the range 6.5 to 9.0.
- 46 The level of dissolved oxygen in the Lee River downstream of the construction area, as measured at the downstream monitoring site specified in Condition 41 shall not be less than 80% of the saturation value.
- 47 In the event that either monitoring undertaken pursuant to Condition 41 or spot sampling by the Council indicates a breach of any of the receiving environment standards specified in Condition 42 - 46 of these consents (which apply at all times for out of river work, and at least 9 hours after the end of any in-river construction work), the Consent Holder shall:
  - (a) cease construction activities in any area identified as causing the breach until corrective action is taken to meet the breached standard;
  - (b) within five working days undertake a full review of the relevant erosion and sediment control devices or other construction management protocols within the area identified as causing the breach;
  - (c) within five working days identify any potential causes beyond the control of the Consent Holder such as slips or stream bank erosion;
  - (d) undertake further water quality measurements for that parameter which was breached, daily for ten working days after the breach occurs and, where breaches of the receiving environment standards specified in Condition 42 – 46 are detected in two consecutive samples, commission an ecological assessment of the receiving environment to determine any responses by the aquatic communities to the breach and any necessary or appropriate corrective action to the cause of the breach;
  - (e) implement any corrective action to the area causing the breach (and equivalent corrective action on other erosion and sediment controls or other construction management protocols using the same methodologies in the wider catchment) as recommended in the ecological assessment required by clause (d) above;
  - (f) identify action(s), including amendments to erosion and sediment control plan design, methodologies and policies within the relevant catchment and, as appropriate, as applicable elsewhere within the site, necessary to ensure future compliance with the water quality standard(s) that was breached;
  - (g) implement the actions identified in (e) and (f) above;
  - (h) advise the Council in writing of the steps taken in accordance with paragraphs (b) to (g) above. This advice shall be provide in writing within one week of the steps being taken; and

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- (i) review the CEMP and/or the relevant SCEMP prepared under Condition 32, and revise it if necessary to ensure compliance with conditions 42 – 46 occurs. All revised CEMPs or SCEMPs shall be submitted to the Council for certification that they meet the objectives and performance standards as required by Condition 32 within one month of monitoring identifying a breach of any of the receiving environment standards.
- 48 The Consent Holder shall keep a log detailing the time and location of any work undertaken within any active flowing river channel. This log shall be provided to the Council upon request.

### Alternative Water Supply

- 49 The Consent Holder shall undertake a survey to determine the names and addresses of those persons who take water directly from the Lee or Wairoa Rivers between the dam site and the Waimea East Irrigation Company's intake. The Consent Holder shall prepare a report identifying the location of the intakes, the name of the person(s) who take water, and the use of the water and shall provide a copy of this report to the Council prior the commencement of construction activities.
- 50 The Consent shall advise, in writing, all those persons identified by the survey required to be undertaken by Condition 49 of the intended date of any work that will be undertaken within any active flowing river channel. Such advice shall include the intended duration of the works and shall be delivered to the persons at least one week before such works are to occur.
- 51 If, in the opinion of the Council, the Consent Holder's activities are adversely affecting any downstream water supplies, then the Consent Holder shall provide the user with an alternative water supply to the satisfaction of the Council. For the avoidance of doubt, this condition includes all the Consent Holder's activities, not just works in any active flowing river channel.

#### **Advice Note:**

*The purpose of conditions 49-51 is to firstly determine/confirm downstream water users. The Consent Holder must then provide notice to these persons of intended works (including the duration of the works) within any active flowing river channel. This notice period will allow those water users to fill any storage tanks they may have prior to the works commencing. However, if it is verified that the Consent Holder's activities (not limited to works in any active flowing river channel) is adversely affecting any of the water supplies then the Consent Holder needs to provide the water user(s) with an alternative water supply (e.g. tankering in water to fill water tanks).*

### Fish Passage

- 52 The Consent Holder shall make provision for the upstream passage of elvers (longfin eels) and young koaro at times of low river flows from November to April, inclusive, during the construction period.

#### **Advice Note:**

*The diversion culvert barrels are designed to be smooth and relatively hydraulically efficient and the addition of roughness elements (e.g. rocks or baffles) are not required within the barrels. However, a rock weir at the downstream end of the culvert barrels would assist fish passage at low flows and such a weir would comply with the requirements of this condition.*

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### Construction Traffic Management Plan (CTMP)

53 The Consent Holder shall, at least 20 working days prior to the intended date of commencement of construction activities, provide to the Council a Construction Traffic Management Plan (CTMP). The CTMP shall be prepared by a suitably qualified and experienced Traffic Engineer in consultation with the affected land and forest owners within the application site and also the owners and occupiers of properties served by the unsealed section of Lee Valley Road, and shall be submitted to the Council for certification that it:

- (a) is generally consistent with the draft CTMP (Lee Valley Dam Draft Construction Traffic Management Plan, TDG, Ref:11416-2, November 2014);
- (b) meets the objectives contained in Condition 54; and
- (c) contains the minimum requirements contained in Condition 55.

54 The CTMP shall meet the following objectives:

- (a) to ensure that traffic generated during construction of the dam is effectively managed so that increases in traffic volume are safely accommodated within the existing road network;
- (b) dam construction traffic shall be scheduled as far as practicable to avoid times when the private road is being used for forestry harvesting operations;
- (c) to the extent that it is not practicable to schedule dam construction traffic to avoid times when the private road is being used for harvesting activities, logging trucks shall be afforded priority of passage on the private road and forestry operators shall not be prevented from operating any skyline anchor associated with their harvesting activities;
- (d) that any section of River Terrace Road or Lee Valley Road that is open to the public and comprises part of the construction route to the site are managed in accordance with the latest version of the New Zealand Transport Agency's (NZTA) Code of Practice for Temporary Traffic Management (CoPTTM);
- (e) that the best practicable option is used to manage traffic on roads not open to the public (including, where appropriate, the use of methods such as radio telephone (R/T) controls);
- (f) centre-line road markings are painted as an isolated safety treatment on those curves identified as requiring such treatment on the plans attached to the evidence of Mr David Petrie TDG Ref:11683, Lee Valley Road Corridor Survey, Sheets 1 – 7.

55 The CTMP shall include the following as a minimum:

- (a) an appropriately detailed plan or plans describing any road improvement works to the public road, including all necessary passing bays;
- (b) identification of the extent of such passing bays required to accommodate the anticipated number and type of waiting vehicles clear of through vehicles in the opposing direction;

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- (c) identification of methods to avoid, as far as is practical, adverse effects on forestry harvesting operations; and
- (d) methods to manage construction traffic and other traffic on the private road and the unsealed section of Lee Valley Road, including use of R/T controls and installation of a dedicated repeater.

56 The Consent Holder shall comply with the certified CTMP at all times.

**Advice Note:**

*Any physical works on the public road will require separate authorisation from the road controlling authority. The person that undertakes the works will need to be on the Council's list of approved contractors.*

### Condition of Roads

57 The Consent Holder shall ensure that all of the roads comprising the construction route between the State Highway 6 intersection and the site are adequately maintained throughout construction of the dam and returned to the Council as road controlling authority or owner of the private road, respectively, in the same or better condition at the end of construction than before construction commenced.

**Advice Note:**

*Any physical works on the public road required to comply with Condition 57 will require separate authorisation from the road controlling authority. The person that undertakes the works will need to be on the Council's list of approved contractors.*

58 To enable compliance with Condition 57 to be determined, the Consent Holder shall engage an independent roading engineer to prepare a pre-construction and post-construction inspection report on the condition of the construction route between the State Highway 6 intersection and the site. The pre-construction inspection shall be undertaken no more than 5 working days before the date that construction commences and the post-construction inspection shall be undertaken within 5 working days of completion of construction of the dam. A copy of each report shall be submitted to the Council within one month of the inspection being undertaken.

### Accidental Discovery

59 If koiwi, taonga or other archaeological material is discovered in any area during the works, work shall immediately cease in the area of the discovery (within 100 metres) and the Consent Holder shall notify Ngati Rarua, Ngati Toa, Ngati Koata, Ngati Kuia, Rangitane, Ngati Apa, Ngati Tama, Te Ati Awa, Heritage New Zealand and the Council within 24 hours. If human remains are found, the New Zealand Police shall also be contacted. The Consent Holder shall allow the above parties to inspect the site and in consultation with them, identify what needs to occur before work can resume in that area.

### Vegetation Clearance Plan (VCP)

60 The Consent Holder shall, at least 20 working days prior to the intended date of commencement of construction activities, prepare a Vegetation Clearance Plan (VCP). The VCP shall be prepared in consultation with Ngati Rarua, Ngati Toa, Ngati Koata, Ngati Kuia, Rangitane, Ngati Apa, Ngati Tama, and Te Ati Awa, the Director-General of Conservation (or their nominee), the Biodiversity Technical Advisory Group

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(required by Condition 25), and those forestry operators affected by the proposal and shall be submitted to the Council for certification that it meets the following objectives and performance standards:

- (a) to minimise as far as practicable the loss of indigenous vegetation and fauna resulting from construction earthworks, and reservoir filling (outside of the maximum flood level);
- (b) to manage clearance of vegetation within the reservoir footprint so as to minimise adverse effects on native fauna;
- (c) to provide to the extent practical and possible an opportunity for iwi to access suitable ngahere (native timber) and kohatu (stone/minerals, including pakohe (argillite)) for traditional cultural uses;
- (ca) to avoid any adverse effects of vegetation clearance activities on forestry operations as far as practicable;
- (d) identification of indigenous timber within the reservoir footprint that is suitable for traditional cultural use and establishment of methodologies for its harvesting for cultural purposes;
- (e) identification of vegetation within demarcated construction areas that can practically be preserved during the construction process and means of ensuring that effects on that vegetation are avoided or minimised;
- (f) identification of areas, totaling not less than five hectares, within the construction area that, following completion of construction, will be suitable for replanting with indigenous species;
- (g) identification of appropriate measures to ensure planted out areas within completed construction areas are maintained for a period of not less than five years following completion of construction;
- (h) identification of methods to deal with vegetative material cleared in a manner that will minimise any fire risk;
- (i) identification of protocols to minimise the impact on native vertebrates and threatened plants during vegetation removal or construction, including seed collection for nursery propagation and salvage and transplantation of threatened plants prior to vegetation removal consistent with the requirements of the Biodiversity Management Plan required to be prepared by Condition 13;

61 The Consent Holder shall comply with the certified VCP at all times.

### Noise

62 All noise from construction activities pursuant to these consents shall meet the requirements of the long duration noise limits specified in Table 2 of NZS6803:1999 'Acoustics – Construction Noise'.

### Dust

63 Dust suppression measures, such as the use of water carts, shall be utilised on site and site access roads as necessary to ensure dust generation is minimised.

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- 64 Any dust discharge arising from the exercise of these consents shall not result in any objectionable deposition of particulate matter on any structure or land beyond the line delineating 'nominal limits of construction area' shown on plans 27425-GEN-09 and 27425-GEN-10 attached to these consents.

### Complaints

- 65 The Consent Holder shall maintain a permanent record of any complaints received alleging adverse effects from or related to the works, including sedimentation effects in the Lee River. This record shall include:

- (a) the name and address of the complainant (if provided);
- (b) the date and time that the complaint was received;
- (c) details of the alleged event;
- (d) weather conditions at the time of the complaint and of the alleged event; and
- (e) any measures taken to investigate/mitigate/remedy the cause of the complaint.

The Consent Holder shall provide details of any complaints received to the Council no later than the next working day. This record shall be made available to the Council on request.

### Hazardous Substances

- 66 The Consent Holder shall, at least 20 working days prior to the intended date of commencement of construction activities, provide to the Council an Emergency and Spill Contingency Plan (ESCP). The ESCP shall be submitted to the Council for certification that it meets the following objectives and performance standards:

- (a) details of hazardous substances to be used and stored, including material safety data sheets (MSDSs);
- (b) procedures for handling hazardous substances to minimise the likelihood of spills occurring;
- (c) location and contents of spill kits and fire extinguishers;
- (d) training of staff;
- (e) at least two site contact names and contact telephone numbers (including after hours), contact telephone numbers for all emergency services;
- (f) detailed procedures for dealing with spills, contact numbers for liquid waste collection and removal companies;
- (g) procedures that will be followed to minimise the likelihood of fire and the procedures that will be followed in the event of a fire occurring.

- 67 The Consent Holder shall comply with the certified ESCP at all times. All staff involved in the handling and/or use of hazardous substances shall be familiar with the certified ESCP.

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- 68 At least one copy of the certified ESCP shall be located in a visible and accessible location. An additional copy of the certified ESCP shall be held in a central, accessible location in the office area.
- 69 Any surface or container used to store or contain any hazardous substances shall be sealed and impervious to the hazardous substance.
- 70 Appropriate, clearly visible signage indicating the type and properties of hazardous substances held on-site shall be located on or near all storage areas to alert emergency services.
- 71 All secondary containment facilities for hazardous substances held on-site shall be regularly checked to ensure their integrity. Written records of these inspections shall be held on-site and presented to the Council on request.
- 72 Any spillage of hazardous substances on-site shall be dealt with in a manner that minimises risks to human health and the environment. In the event of a spill, the Consent Holder shall take all practicable measures to minimise contaminants entering soil and surface water bodies.

**Advice Note:**

*Any spillage to land would not be authorised by this resource consent, spillage on unsealed surfaces may require excavation of any contaminated material and removal of this material for disposal at a site authorised to accept such material.*

- 73 The Consent Holder shall keep an accurate written record of all accidents or incidents involving the spillage of hazardous substances and shall supply these to the Council on request. Any spillage of hazardous substances where the substance is not collected and removed from site shall be reported immediately (within 24 hours) to the Council.
- 74 All waste material containing hazardous substances (including any material associated with spill cleanup) shall be removed off-site on a regular basis and disposed of at a facility authorised to receive such material.

### **Water Take during Construction**

- 75 The water taken shall only be used for activities associated with the construction of the dam.
- 76 The maximum rates of take shall not exceed any of the following:
- (a) 28 litres per second (instantaneous rate);
  - (b) 2,226 cubic metres per day;
  - (c) 15,582 cubic metres per week.

**Advice Note:**

*The Consent Holder may take water at rates that exceed those specified in this condition for fire-fighting purposes as provided for in Section 14(3)(e) of the Resource Management Act 1991.*

- 77 The intake shall include a fish exclusion device to a standard consistent with the NIWA Fish Screening Good Practice Guidelines (Jamieson et al., October 2007). The fish exclusion device shall be maintained in good working order. Records shall be kept of

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all inspections and maintenance, and those records shall be provided to the Council on request.

- 78 The Consent Holder shall install, and thereafter operate and maintain, a water meter that complies with both the Water Meter definition as stated in Chapter 2 of the Tasman Resource Management Plan and also the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010, including that the water meter shall have a pulse output facility capable of providing data in a form suitable for electronic storage.

**Advice Note:**

*The Resource Management (Measurement & Reporting of Water Takes) Regulations 2010 apply to this consent and the Consent Holder is therefore referred to the Ministry for the Environment website for all requirements under these Regulations. The website address is:*

*<http://www.mfe.govt.nz/rma/central/measuring-reporting-water-takes.html>.*

- 79 The water meter shall be installed in accordance with the water meter manufacturer's specifications such that it provides a continuous measurement of all water taken under this consent.
- 80 The water meter shall be verified as measuring the volume of water taken to within +/- 5% of the actual water taken and written confirmation of water meter accuracy shall be provided by the verifier to the Council prior to water being taken for construction purposes.
- 81 Water meter verification required by Condition 80 shall be performed by a person who, in the Council's opinion, is suitably qualified and experienced and the verification methodology shall be in general accordance with best practice.
- 82 The Consent Holder shall record the water meter reading every week and shall submit the meter readings to the Council specified each year by the Council.

**Advice Note:**

*The Consent Holder is required to supply to the Council a complete record of its weekly water meter readings for each water year, including recording nil usage. Regular (preferably Monday) meter readings are required to ensure consistent data and because the Council currently monitors weekly use. Advice is available about options to supply the water meter readings to the Council. Please contact the Council's Compliance Officer (Water Metering) to discuss these options.*

### **CONDITIONS TO BE COMPLIED WITH PRIOR TO AND FOLLOWING FILLING OF THE RESERVOIR**

#### **Emergency Action Plan (EAP)**

- 83 Prior to the first filling of the reservoir, the Consent Holder shall forward to the Council written confirmation from a Professional Engineer(s) experienced in the design and construction of large dams with an assessed Potential Impact Category of 'High', confirming their engagement to prepare a post construction Emergency Action Plan (EAP) for the purpose of ensuring appropriate management of the risk associated with uncontrolled or excessive flow releases from the dam, as required by the conditions of these consents.

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- 84 An EAP shall be prepared in accordance with the recommendations of the NZSOLD Guidelines and relevant New Zealand dam safety legislative requirements. The EAP shall be submitted to the Council at least 20 working days prior to reservoir filling for certification that it meets the recommendations of the NZSOLD Guidelines and relevant New Zealand dam safety legislative requirements.
- 85 The Consent Holder shall comply with the certified EAP at all times.

### Reservoir Filling

- 86 Prior to filling the reservoir the Consent Holder shall determine the volume of the reservoir and then provide to the Council a water level to water volume relationship over the operating range of the dam. This relationship shall be in the form of a rating table and graph which plots water level against water volume.
- 87 The Consent Holder shall provide either of the following for those land owners and forestry operators whose existing legal access roads are to be inundated by the dam reservoir:
- (a) provision of a new access road(s) where legal rights currently exist; or
  - (b) an alternative method to harvest the trees on land that is unable to be accessed.

The Consent Holder shall provide a report to the Council on how it has complied with this condition at least 20 working days prior to filling of the reservoir. The report shall include an outline of the consultation that has been undertaken with the affected land owners and forestry operators including a statement on whether they agree with the solution being provided by the Consent Holder.

- 88 Reservoir filling shall not commence until all of the following are met:
- (a) the Emergency Action Plan required by Condition 84 is certified by the Council;
  - (b) the Code Compliance Certificate (CCC), or similar authorisation, for the dam structure has been issued under the Building Act 2004;
  - (c) the Operational Management Plan required by Condition 92 is certified by the Council;
  - (d) the Reservoir Water Quality Monitoring Programme required by Condition 106 is certified by the Council;
  - (e) the Reservoir Release Water Management Plan required by Condition 108 is certified by the Council;
  - (f) the River Water Quality Monitoring Programme required by Condition 110 is certified by the Council; and
  - (g) Conditions 87 and 89 have been complied with.
- 89 The Consent Holder shall ensure that, prior to the first filling of the reservoir, the footprint of the reservoir is cleared of vegetation, or the potential for vegetation to adversely impact on water quality is otherwise reduced, to the extent possible, to assist with managing reservoir water quality.

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**Advice note:**

*Vegetation clearance needs to be carried out in accordance with the Vegetation Clearance Plan required by Condition 60.*

- 90 At the first filling of the reservoir, the Consent Holder shall remove floating vegetative matter, to the extent possible, to assist with managing reservoir water quality.
- 91 The Consent Holder shall, once every 10 years following filling of the reservoir, monitor sediment infilling of the reservoir and calculate a revised reservoir volume and water level to water volume relationship for the dam. This relationship shall be in the form of a revised rating table and graph which plots water level against water volume. This information shall be provided to the Council within one month of the relationship being finalised.

### **Operational Management Plan (OMP)**

- 92 The Consent Holder shall, at least 20 working days prior to the commencement of filling of the reservoir, submit to the Council for certification an Operational Management Plan (OMP). The OMP shall be prepared in consultation with forestry owners and shall be certified by the Council that it meets the following objectives and performance standards:
- (a) avoids adverse effects on forestry harvesting operations as far as practical;
  - (b) outlines the procedures to minimise fire risk;
  - (c) provides for the management of traffic on the private road, including use of radio telephone (R/T) controls as appropriate;
  - (d) outlines the training to be provided to all personnel accessing the site on behalf of the Consent Holder, including in respect of access protocols, health and safety requirements, and fire risk;
  - (e) outlines procedures and frequencies for dam surveillance and dam safety, including shoreline inspections to identify slope instability risks.
  - (f) outlines procedures and frequencies to assess floating vegetation on the reservoir and its subsequent management.
  - (g) outlines how the reservoir is proposed to be filled, including any staging of filling and the inspections that will be undertaken during filling.
- 93 The Consent Holder shall comply with the certified OMP at all times.

### **Water Release from Dam Following Construction**

- 94 The Consent Holder shall, in accordance with the following table, for each of the stated 'ranges' of water levels of the dam, release water from the dam at the minimum rate(s) specified.

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<b>Dam Water Level Description*</b>	<b>Relative Level (metres)</b>	<b>Minimum Rate of Water Release from Dam (excluding Flushing Flows)</b>	<b>Maximum Rate Authorised for Hydroelectricity Generation</b>
'Upper Range' (between PMFWL and MBSWL)	202.5 - 197.04	At least 510 litres per second or any greater rate to ensure that the 72 hour rolling average flow of the Waimea River, as measured at the Council's 'Nursery' flow recorder site (above the Appleby Bridge) does not fall below 1,100 litres per second.	No limit, but subject to Conditions 103 and 104
'Normal Range' (between MBSWL and 1:40YDWL)	197.04 - 174.2	At least 510 litres per second or any greater rate to ensure that the 72 hour rolling average flow of the Waimea River, as measured at the Council's 'Nursery' flow recorder site (above the Appleby Bridge) does not fall below 1,100 litres per second.	No greater than the discharge rate needed to ensure that the 72 hour rolling average flow of the Waimea River, as measured at the Council's 'Nursery' flow recorder site (above the Appleby Bridge) does not fall below 1,100 litres per second.
'Lower Range' (between 1:40YDWL and MOWL)	174.2 - 166.5	At least 510 litres per second or any greater rate to ensure that the 72 hour rolling average flow of the Waimea River, as measured at the Council's 'Nursery' flow recorder site (above the Appleby Bridge) does not fall below 800 litres per second.	No greater than the discharge rate needed to ensure that the 72 hour rolling average flow of the Waimea River, as measured at the Council's 'Nursery' flow recorder site (above the Appleby Bridge) does not fall below 800 litres per second.
'Through-flow Range' (below MOWL)	<166.5	All inflows into the dam up to 510 litres per second shall be released downstream.	Any discharge from the dam may be used.

\* Abbreviations

PMFWL:	Probable Maximum Flood Water Level
MBSWL:	Minimum Buffer Storage Water Level
1:40YDWL:	1 in 40 Year Drought Water Level
MOWL:	Minimum Operation Water Level

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- 95 The Consent Holder shall install, operate, and maintain a system to directly or indirectly measure and record the instantaneous rate that water is released from the dam and also the water level within the reservoir to an accuracy of at least +/-5%. These measurements shall also comply with the requirements of Condition 6. These data shall be provided to the Council electronically in 'real time' in a format agreed to by the Council.

### Flushing Flows

- 96 The Consent Holder shall release 'flushing flows' from the dam with the objective of mitigating the potential build-up of periphyton in the Lee River. This condition shall be complied with between 1 November and 30 April each year and flushing flows shall be released when the flow in the Lee River, measured immediately below the dam, has been less than 5 cubic metres per second for a period of 40 days after 1 November. Flushing flows shall be released at a minimum rate of 5 cubic metres per second for a period not less than three hours. For the first two years of operation no more than three flushing flows shall be required to be released each year between 1 November and 30 April. The number of flushing flows after two years shall be in accordance with the recommendations that must be included in the review of flushing flows required by Condition 102.
- 97 Flushing flows shall only be released from the dam at night between 2200 and 0400 hours.
- 98 The Consent Holder shall, at least 5 working days prior to the intended date of the first release of a flushing flow, provide to the Council a Flushing Flow Release Plan (FFRP). The FFRP shall be submitted to the Council for certification that it meets the following objectives:
- (a) avoids or mitigates adverse effects of the change in water level, transport of and accumulation of organic material that results from flushing flows on the Lee River and Waimea River mouth estuary;
  - (b) avoids adverse effects on downstream recreational users through timing or notification of flushing flows;
  - (c) avoids fish stranding as a result of sudden flow recession.

The FFRP shall include as a minimum:

- (i) the proposed timing of the flushing flow;
- (ii) details of how adverse effects on downstream recreational uses will be avoided;
- (iii) the proposed rate of flow recession to avoid fish stranding;
- (iv) details of monitoring to be undertaken to demonstrate compliance with objective (a);
- (v) identification of the location of monitoring sites.

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- 99 The Consent Holder shall give the Council no less than 24 hours' written notice of the date of each flushing flow. Flushing flows shall otherwise be released in accordance with the certified FFRP
- 100 The Consent Holder shall not release flushing flows until the FFRP has been certified by the Council and shall then comply with the certified FFRP at all times.
- 101 Where a flushing flow is intended to be released from the dam the Consent Holder shall monitor periphyton cover, including the presence and relative abundance of cyanobacteria. Monitoring shall occur before and after each flushing flow released during the first two years of water releases from the dam as follows:
- (i) the monitoring shall be undertaken no more than 48 hours before the beginning, and no more than 48 hours after the end, of each flushing flow;
  - (ii) the monitoring shall follow the RAM-1 method contained in the 'stream periphyton manual' (Biggs and Kilroy, 2000) or such similar method approved by the Council;
  - (iii) the monitoring shall be undertaken at no fewer than 2 sites on the Lee River between the toe of the dam and the Roding River confluence;
- 102 Two years after commencement of filling of the reservoir the Consent Holder shall engage an independent appropriately qualified and experienced ecologist to undertake a review of the flushing flow releases, and all monitoring results collected in accordance with Condition 101. The independent ecologist shall prepare a report on the monitoring results, and identify any issues of concern raised by monitoring results, and make recommendations for any changes to the frequency, number, or magnitude of flushing flows considered necessary to achieve the objectives of mitigating the potential build-up of periphyton in the Lee River. A copy of the report shall be provided to the Council for certification that recommended changes will achieve the objective of mitigating the potential build-up of periphyton in the Lee River no later than 3 months following the 2nd anniversary of commencement of filling of the reservoir. Any recommendations to changes in the frequency, number, or magnitude of flushing flows in this report shall be implemented once certified by the Council.

### Hydro Power Operation

- 103 In the event that the Consent Holder constructs and operates a hydroelectricity plant then the dam shall be operated such that the maximum rate that water may be used for generation complies with the right hand column of the table presented in Condition 94. In addition, the plant shall be operated such that for controlled flow releases from the base of the dam as a result of flow passing through hydroelectricity turbines and flow control valves, 98% of the changes in mean daily flow (due to the dam operation) from one day to the next over a rolling 12 month preceding period shall be less than 1.2 cubic metres per second. For the avoidance of doubt, these restrictions do not apply to discharges via the spillway or any flushing flows required by this consent.
- 104 In the event that hydro-peaking is planned, the Consent Holder shall engage an independent appropriately qualified ecologist to undertake a fluctuating flow analysis to help guide the maximum level of flow variation allowed within a day. The independent ecologist shall prepare a report describing the results of this fluctuating flow analysis and make recommendations on the maximum level of flow variation allowed within a day. A copy of this report and the Consent Holder's plans for hydro-peaking adopting

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the recommendations of the ecologist shall be provided to the Council for certification that it meets the objective prior to commencement of any hydro-peaking.

### Flood Warning Model Recalibration

- 105 The Consent Holder shall pay for the recalibration of the Council's flood warning model for the Waimea River catchment so that the effects of the dam are accounted for. Recalibration of the model shall occur every 10 years to take into account sediment infilling of the reservoir (required to be monitored in accordance with Condition 91. The Consent Holder's contribution to recalibration of the model shall be capped at \$3,000 (including GST).

### Reservoir and River Water Quality

- 106 The Consent Holder shall, prior to the commencement of filling of the reservoir, provide to the Council a Reservoir Water Quality Monitoring Programme (Reservoir WQMP) for certification that it provides for monitoring of parameters likely to influence water quality in the Lee River following discharge from the dam. The initial Reservoir WQMP shall include, as a minimum, monitoring for the parameters and at the frequencies specified in the following table. Monitoring shall be undertaken at a point in the reservoir located at or near the deepest point in the reservoir, unless specified otherwise in the table. Unless otherwise specified in the conditions of this consent, the monitoring protocols shall follow the protocols described in the Ministry for the Environment report "Protocol for monitoring trophic levels of New Zealand lakes and reservoirs" (Burns et al. 2000).

#### *Reservoir water quality monitoring*

<i>Parameters</i>	<i>Frequency</i>
Chlorophyll a (integrated tube sample between 0-10 metres) Nitrate nitrogen (integrated tube sample between 0- 10 metres) Total ammoniacal nitrogen (integrated tube sample between 0-10 metres; and at hypolimnetic depth) Total nitrogen (integrated tube sample between 0-10 metres) Total carbon (integrated tube sample between 0-10 metres) Dissolved reactive phosphorus (integrated tube sample between 0-10 metres) Total phosphorus (integrated tube sample between 0-10 metres; and at hypolimnetic depth) Dissolved iron and manganese (at hypolimnetic depth if dissolved oxygen in bottom waters < 5 milligrams per litre)	Monthly
Algal abundance (cell count and biovolume)	Monthly, only during any cyanobacteria blooms
Visual clarity (Secchi depth) Temperature (depth profile)	Monthly

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Dissolved oxygen (grams per cubic metres and % saturation) (depth profile) Conductivity (depth profile) pH (depth profile)	
Temperature at 8 levels within the reservoir water column. Dissolved oxygen (grams per cubic metres and % saturation) at 3 levels within the reservoir water column.	Continuous <sup>1</sup> (Hourly logged values)
Aquatic macrophytes and weeds Fish populations in the reservoir Invertebrate communities	4 years after filling at representative sites throughout the reservoir
Index calculation Trophic Level Index	Annually

<sup>1</sup> Continuous monitoring shall also comply with the requirements of Condition 6.

Monitoring shall be undertaken in accordance with the certified Reservoir WQMP. All sampling shall be carried out by a person(s) suitably qualified and experienced in environmental monitoring. All samples that are to be analysed by a laboratory shall be collected in containers supplied by the laboratory and analyses shall be undertaken by an independent laboratory accredited to IANZ. Equipment used to undertake field measurements shall be calibrated in accordance with the manufacturer's specifications to minimise measurement errors. Calibration records shall be kept and made available to the Council upon request.

- 107 The Reservoir WQMP required by Condition 106 shall be undertaken to the detection limits specified in the following table. The detection limits may be varied with the prior written approval of the Council.

### **Detection/Precision Limits**

<i>Type</i>	<i>Monitoring Parameter</i>	<i>Detection/Precision Limit</i>
Laboratory	Nitrate nitrogen	0.002 g/m <sup>3</sup>
	Total ammoniacal nitrogen	0.005 g/m <sup>3</sup>
	Total nitrogen	0.050 g/m <sup>3</sup>
	Total organic carbon	0.5 g/m <sup>3</sup>
	Dissolved reactive phosphorus	0.002 g/m <sup>3</sup>
	Total phosphorus	0.004 g/m <sup>3</sup>
	Dissolved iron	0.02 g/m <sup>3</sup>
	Dissolved manganese	0.005 g/m <sup>3</sup>
	Algal abundance (cell count)	10 cells/mL
Field Measurements (depth profiles)	Visual clarity (Secchi depth)	0.1 m <sup>1</sup>
	Temperature	0.1 °C <sup>1</sup>

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<i>Type</i>	<i>Monitoring Parameter</i>	<i>Detection/Precision Limit</i>
	Dissolved oxygen (concentration and % saturation)	0.1 g/m <sup>3</sup> 0.5 % saturation <sup>1</sup>
	Conductivity	1.0 µS/cm <sup>1</sup>
	Turbidity	0.1 NTU <sup>1</sup>
Index calculation	Trophic Level Index (following the methodology set out in Burns et al. 2000)	N/A

<sup>1</sup> Numbers for field measurements relate to the precision of these measurements, not the detection limit.

- 108 The Consent Holder shall, prior to commencement of filling of the reservoir, provide to the Council a Reservoir Release Water Management Plan (RRWMP) which shall apply to all reservoir water discharges to the Lee River. The RRWMP shall include trigger levels and response protocols for the parameters measured in the Reservoir WQMP (Condition 106) and the River WQMP (Condition 110). The RRWMP shall be submitted to Council for certification that it details how release water will be managed and monitored so as to minimise adverse effects on the water quality and aquatic ecology of Lee River and to meet the receiving environment standards specified in Condition 111.
- 109 The Consent Holder shall undertake monitoring in accordance with the certified Reservoir WQMP, RRWMP, and River WQMP.
- 110 The Consent Holder shall, prior to the commencement of filling of reservoir, provide to the Council a River Water Quality Monitoring Programme (River WQMP) for certification that it provides for monitoring of water quality and ecological health in the Lee River. The initial River WQMP shall include provision for a downstream monitoring site within the Lee River located immediately upstream of the confluence with Anslow Creek or such alternative site that is located a close as practical downstream of the reservoir..

The initial River WQMP shall include, as a minimum, monitoring for the parameters and at the frequencies specified in the following table. Monitoring shall commence within two months of the commencement of filling of the reservoir.

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<i>Parameter</i>	<i>Units</i>	<i>Frequency</i>	<i>Detection Precision Limit</i>
Water temperature	Degrees Celsius.	Continuous <sup>2</sup> (hourly logged values)	0.1°C <sup>1</sup>
Dissolved oxygen	g/m <sup>3</sup> ; %sat	Continuous <sup>2</sup> (hourly logged values) from Nov to April	0.1 g/m <sup>3</sup> 0.5 % saturation <sup>1</sup>
pH	pH	Monthly	0.1 pH units <sup>1</sup>
Nitrate-N	g/m <sup>3</sup>	Monthly	0.002 g/m <sup>3</sup>
Total ammoniacal-N	g/m <sup>3</sup>	Monthly	0.005 g/m <sup>3</sup>
Dissolved reactive phosphorus	g/m <sup>3</sup>	Monthly	0.002 g/m <sup>3</sup>
Visual clarity (black disc)	m	Monthly	0.1 m <sup>1</sup>
Dissolved iron	g/m <sup>3</sup>	Monthly	0.02 g/m <sup>3</sup>
Dissolved manganese	g/m <sup>3</sup>	Monthly	0.005 g/m <sup>3</sup>
Periphyton cover	%-cover	Monthly, from November to April	
Macroinvertebrate community metrics	MCI, QMCI, and density of EPT taxa	Annual (between January and March)	
Fish community		Annually, single pass using Electric Fishing Machine (EFM) at sites representative of the fish communities present	
Deposited sediment		Six monthly using Sediment Assessment Methods (SAM) 2 and 5 (outlined in Sediment Assessment Methods - Protocols and guidelines for assessing the effects of deposited fine sediment on in-stream values)	

<sup>1</sup> Numbers for field measurements relate to the precision of these measurements, not the detection limit.

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<sup>2</sup> Continuous monitoring shall also comply with the requirements of Condition 6.

All sampling shall be carried out by a person(s) suitably qualified and experienced in environmental monitoring. All samples that are to be analysed by a laboratory shall be collected in containers supplied by the laboratory and analyses shall be undertaken by an independent laboratory accredited to IANZ. Equipment used to undertake field measurements shall be calibrated in accordance with the manufacturer's specifications to minimise measurement errors. Calibration records shall be kept and made available to the Council upon request.

- 111 The discharge of water from the dam shall not cause the water quality or ecological health of the Lee River downstream of the dam to fall below the following standards, as measured immediately upstream of the confluence of Anslow Creek or such alternative site as close as practical downstream of the reservoir (being the monitoring site(s) referred to in Condition 110, noting that the downstream monitoring site for macroinvertebrate metrics may be at a different location to the primary monitoring site stated in that condition):
- (a) the discharge shall not cause the pH of the receiving water to fall outside of the range 6.5 to 9.0;
  - (b) the discharge shall not cause the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials in the receiving water;
  - (c) the discharge shall not cause the visual clarity of the receiving water to be less than 5 metres as measured by black disc;
  - (d) the discharge shall not cause any emission of objectionable odour in the receiving water;
  - (e) the discharge shall not cause the level of the dissolved oxygen (DO) level to be less than 80% of the saturation value;
  - (f) the discharge shall not cause the average daily temperature of the receiving water to exceed 20 °C;
  - (g) the percentage reduction to the QMCI score and densities of EPT taxa relative to the average QMCI score and density of EPT taxa recorded at the Lee River at Meads Bridge site prior to dam construction shall not exceed 20%.
  - (h) the discharge shall not cause the concentration of dissolved manganese to exceed 1.2 grams per cubic metre.
  - (i) the discharge shall not cause the concentration of dissolved iron to exceed 0.35 grams per cubic metre.
- 112 The receiving water standards specified in Condition 111 shall not apply during flushing flows required by Condition 96 or at any time when the river exceeds the 20th flow exceedence percentile.
- 113 Five years after commencement of filling of the reservoir the Consent Holder shall engage an independent appropriately qualified and experienced ecologist(s) to undertake a review of the RRWMP, Reservoir WQMP and the River WQMP. The independent ecologist shall prepare a report on the monitoring results, any parameters

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or other water quality issues of concern, and any recommended changes to the dam operating regime to achieve the receiving environment standards specified in Condition 111. The report shall include an assessment of whether the monitoring results at the Council's Lee River at Meads Bridge monitoring are sufficiently similar to and can be relied on in place of the River WQMP. The independent ecologist shall also prepare a revised RRWMP, Reservoir WQMP and River WQMP that should apply for the remainder of the term of consent. The revised RRWMP, Reservoir WQMP and River WQMP shall identify appropriate monitoring parameters and frequencies having regard to the results of monitoring previously undertaken. The Consent Holder shall provide a copy of the revised RRWMP, Reservoir WQMP and River WQMP to the Council for certification that it details how reservoir water will be managed and monitored so as to minimise adverse effects on the water quality and aquatic ecology of Lee River and to meet the receiving environment standards specified in Condition 111, no later than 3 months following the 5th anniversary of commencement of filling of the reservoir. The certified RRWMP, Reservoir WQMP and River WQMP shall be complied with once they are certified by the Council, and any changes to monitoring parameters and frequencies shall then be implemented.

### Fish Passage

- 114 The Consent Holder shall ensure that upstream passage past the dam structure is provided for elvers (longfin eels) and koaro in accordance with the approach specified in section 4.3.6 of the Assessment of Environmental Effects referred to in Condition 1, or such other means that achieves at least the same passage, to be further developed in consultation with the Director General of Conservation (or their nominee). Key components of the approach are:
- (a) naturalised, riprap lined channel provided downstream of the dam crest;
  - (b) small channel or pipe to provide access from the crest to the upstream side of the dam;
  - (c) pumped flow of 5-10 litres per second down the fish pass (split between the channel on the downstream side of the dam and the channel or pipe on the upstream side of the dam), after dam construction is complete during the periods when migration of elvers and juvenile koaro is likely (1 September to 30 April).
- 115 Within 3 months of completion of dam construction, and prior to installing the downstream end of the fish pass (as required by Condition 114), the Consent Holder shall engage a suitably qualified and experienced freshwater ecologist to undertake monitoring to determine the preferred upstream migration pathway for elvers and koaro. The monitoring shall be undertaken over the first migration season. Upon completion of the monitoring, the ecologist shall provide a recommendation to the Consent Holder as to the most appropriate location of the downstream end of the fish pass. The Consent Holder shall provide a copy of the ecologist's recommendation to the Council within one week of receiving it.
- 116 Within 1 month of receiving the recommendation prepared in accordance with Condition 115, the Consent Holder shall commence activities necessary to design and construct the downstream end of the fish pass in accordance with the ecologist's recommendation.
- 117 The Consent Holder shall ensure that downstream passage past the dam is provided for adult longfin and shortfin eel by 'trap and transfer'. The methodology shall be

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developed in consultation with the Director General of Conservation (or their nominee) and specified in the Biodiversity Management Plan.

- 118 The Consent Holder shall, within the first five years of the initial filling of the reservoir, engage a suitably qualified and experienced freshwater ecologist to undertake assessment of the effectiveness of the fish pass for upstream passage for elvers and juvenile koaro over the dam and also the effectiveness of downstream passage for adult longfin and shortfin eel by 'trap and transfer'. The monitoring methodology shall be specified in the Biodiversity Management Plan.
- 119 The intake to the dam water release system required shall be equipped with a screen with a clear mesh opening size of no greater than 20 millimetres, and shall be designed to provide an approach velocity no greater than 0.3 metres per second under normal operating conditions to minimise entrainment of fish. The 0.3 metres per second velocity limit shall not apply during periods of flushing flow required by Condition 96.
- 120 Five years after commencement of filling of the reservoir the Consent Holder shall engage an independent appropriately qualified and experienced ecologist to undertake a review of the effectiveness of upstream and downstream fish passage arrangements based on the monitoring required by condition 118 this consent. The independent ecologist shall prepare a report on fish passage and any issues of concern. The report shall recommend any changes that are necessary to the design or operation of the fish passage methods in use to ensure that fish passage is achieved. A copy of the report shall be provided to Council for certification no later than 3 months following the 5th anniversary of commencement of filling of the reservoir. Any changes recommended by the ecologist in respect of the design or operation of the fish passage methods shall be implemented once certified by the Council.

### Reporting and Monitoring

- 121 The Consent Holder shall prepare an Annual Monitoring Report for the operation of the dam and provide it to the Council by 31 July of each year. The report shall cover the period from 1 May to 30 April and include the results of all monitoring undertaken, an interpretation of the results, and an assessment of the impact of the discharges from the dam on the water quality and aquatic ecology of the Lee River, and terrestrial ecology bordering the Lee River, downstream of the dam. This assessment shall include an analysis of pre- and post-dam construction monitoring data and identification of any trends in the results.

**Advice Note:**

*Condition 95 of these consents requires the water level of the reservoir and the rate of discharge from the dam to be provided to the Council in 'real time' and the Annual Monitoring Report therefore does not need to include all this monitoring data but should include a graphical summary of these data.*

# Document 4

Tasman District Council Freshwater Improvement Fund Application 2017 Additional Information

## **Ko te wai te ora ngā mea katoa - Water is the life giver of all things**

The Waimea Community Dam will deliver significant environmental benefits to the Waimea Plains and beyond by augmenting river flows and groundwater recharge to eliminate over-allocation of water resources and to enhance water flows. This will be done by catching water in winter when there is plenty and making it available in summer when it is needed. Thirty percent of the dam capacity is directly attributable to the production of both quantity and quality improvements that increased efficiencies, more conservation measures and new technologies would be insufficient to match.

### **Enhanced Flows**

- The dam provides for all current abstractive uses as well as providing for growth while maintaining a 1,100 l/sec flow, sufficient to protect and enhance in-stream ecological values.
- Regulation of water flows (particularly drought prevention) is a critical driver for the dam.
- The environmental portion of the dam capacity provides for the preservation of a minimum flow of 1,100 l/sec which is the one day mean annual low flow in the lower Waimea River compared to an 800 l/sec target flow, which does not trigger a cease take, in the absence of a dam. Importantly, it also improves flows in the coastal springs highly valued by iwi and reduces the increasing risk of saltwater intrusion in the aquifers due to sea level rise.
- Improved river flow also benefits recreational interests in the Waimea River catchment, valued for its swimming, trout fishing, kayaking, walking and picnicking. It is also valued by local iwi for its ecological and cultural values.

### **Biodiversity Enhancement Programme**

- Collectively, the programmes funded as a result of the Waimea Dam will provide a significant investment in biodiversity enhancement on public and privately owned land, and produce lasting benefits not otherwise achievable through existing agency, local government or private investor resourcing. If the dam does not proceed, these benefits will not eventuate.
- Development of a Biodiversity Management Plan, Species Management Plan, Revegetation and Enrichment Planting Plan and Vegetation Clearance Plan as well as implementation of a Reservoir Water Quality Monitoring Programme and River Water Quality Management Plan will be undertaken.
- Establishment of a Biodiversity Compensation Fund (BCF) that will contribute towards the restoration of Neimans and O'Connor Creeks (both classified as vulnerable) and Pearl Creek, and in extending knowledge-sharing and community-based enhancement programmes.
- At least three unique environmental protection and enhancement projects involving streams, rivers and wetlands on public or private land are funded by monies disbursed through the BCF each year.

### **Planting/Habitat Improvement**

- At least 20 hectares of river bermland and coastal margin has been set aside for restoration. Management of rare alluvial, duneland, saline and riparian ecosystems and restoration planting has been undertaken within at least half of that area.
- Planting programmes will take place over multiple seasons but will be monitored on a continual basis to ensure on-going benefits that will improve as plants continue to develop over time.
  - Salvage, propagation and establishment of at least three new populations of the nationally rare plant NZ shovel mint.
  - Three other rare plant species will be transplanted into new sites in the Wairoa Gorge conservation area, strengthening regional populations, as well as ensuring that the species persists in the Lee River catchment near the dam and reservoir site.
  - Restoration through native tree planting programmes to re-create extensive tracts of rare lowland alluvial native forest within the Waimea (bermlands) Park.

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- Restoration of a nationally-rare freshwater coastal wetland on Rough Island, including improving protection of rare or uncommon plant species.
- Self-sustaining populations of scented broom and rock coprosma that will contribute to maintaining the genetic distinctiveness of regional populations.

## Pest Management

- Creation of a pest management area in the upper Wairoa Gorge in conjunction with DOC for the purpose of conserving and enhancing populations of a rare land snail (*wainuia nasuta*).
- Significant investment into weed control in the upper Wairoa Gorge conservation area where efforts to halt the spread of the invasive vine Old Man's Beard will enable native forest to regenerate and improve the long-term resilience of native ecosystems covering many hundreds of hectares.

## Ecological Benefits

- Effective on-the-ground habitat restoration and protection of streams, river margins and wetlands that contribute towards sustaining and improving the Tasman district ecological distinctiveness.
- An aquatic ecology report from Cawthron Institute (2009) predicted a positive net effect for adult trout, small trout, eels, torrentfish, koaro, upland bully and food producing habitat" primarily in response to the increased minimum flows.
- Protection and restoration of riverine and coastal native ecosystems that will contribute to the conservation of threatened ecosystems and species of the Tasman region.
- Enhanced flow mitigates the risk of salt inundation which can irreparably damage aquifers and coastal springs.

## Environmental Risks Avoided

- No conversions to dairy are anticipated due to issues with availability of adequate land parcels and the high price of land on the Plains that makes dairying uneconomic (there are only two herds left). The soils and climate of the Waimea Plains are best suited to horticulture and market gardening.

## Over-allocation

- With the benefit of extensive research and analysis to understand the groundwater system, the water resource is now known to be over-allocated.
- Since 2001 when an extreme drought was experienced, crop changes that require less water, water metering and enhanced management practices and conservation measures have been adopted along with significant seasonal water rationing and limits on urban expansion.
- All 329 water permits are currently being reviewed but the suite of changes has not been sufficient to address the full extent of over-allocation including negative impacts on in-stream values, reliability of water supply, the risk of saltwater intrusion, constraints on growth and the on-going economic viability of the primary and down-stream industries on the Waimea Plains.
- The measures are also insufficient to address the National Policy Statement for Freshwater Management objectives or the rule changes within the Tasman Resource Management Plan implemented to reduce the historic over-allocation.

## Capital Cost Apportionment

- The budgeted capital cost of \$75m as mentioned in the application can be explained as follows
  - Irrigation component (52%) = \$39m
  - Urban supply (18%) = \$13.5m
  - Environmental Flow/public good (30%) = \$22.5m
- The \$22.5 million to fund the environmental and public good benefits of the dam capacity includes capitalised costs of about \$1.76m for biodiversity enhancements encoded into the resource consent for the augmentation dam. This includes tree planting/habitat improvement (\$1,197,000), pest management (\$483,000), and biodiversity enhancement planning (\$80,000).
- There are also environmental benefits that will be funded through operational and maintenance costs that will not occur if there is not a water augmentation solution.

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- Of the \$22.5 million, Council has \$14 million provided for within the 2015-2025 Long Term Plan, but one-third (\$7 million) of the environmental benefits remain unfunded and is the subject of this application.

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## Document 5

To Hon David Parker, Minister for the Environment		Tracking #: 2017-B-03986	
<u>Security Level</u>	In confidence	Number of Attachments	Two
Date Submitted:		Response needed by:	N/A
MfE Priority:	Non-Urgent	Action Sought:	Noting

### Update on Waimea Dam (Freshwater Improvement Fund project)

#### Key Messages

1. You requested an update on the Waimea Dam project. This project, led by the Tasman District Council (TDC), has been approved for \$7 million of funding through the Freshwater Improvement Fund.
2. The Waimea Dam project proposes a water augmentation storage dam located in the Upper Lee Catchment to service the Waimea Plains and adjoining areas. The scheme will deliver water for community supply, irrigation, stock as well as environmental and community flows. The total cost of the project is \$78.4 million.

#### Assessment process:

3. The TDC proposal was one of 77 eligible applications received to the 2017 Freshwater Improvement Fund contestable funding round. All eligible applications were assessed by an independent panel (the Panel) against the fund's assessment criteria and on their merit against the other applications received. The fund's eligibility and assessment criteria are provided in Appendix 1.
4. The Panel recommended that, as presented, the application from TDC be declined for funding. This was on the basis that the budget provided was too high-level and that it was difficult to determine the specific environmental outcomes that would be attributed to the funding from the Freshwater Improvement Fund.
5. Prior to making his final funding decisions, the former Minister for the Environment (as delegated decision-maker for the fund) sought supplementary information from seven applicants, to address the comments made by the Panel during the assessment process. The application from TDC was one of the seven applications for which the former Minister requested further information.
6. The former Minister considered the additional information from TDC sufficiently addressed the feedback from the Panel and approved \$7 million towards the Waimea Dam project, subject to the following funding conditions:
  - The funding will contribute to the environmental flow/public good component of the project only
  - The funding is subject to confirmation of co-funding from Crown Irrigation Investments Limited (\$25 million), Waimea Irrigators Limited (\$15 million) and Nelson City Council (\$5 million).
  - The project governance group will include representation by the Ministry.
  - A Work Programme must be developed and include a detailed project budget and funding stage-gates (ie. project milestones must be completed to the Ministry's reasonable satisfaction prior to the project progressing; non-achievement of a milestone is grounds for suspension/termination of funding).

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### Current status:

7. TDC have been invited to Stage 2 of the funding process, which requires working with the Ministry to develop a detailed Work Programme and agreeing to the terms and conditions of a deed of funding. The Ministry is in the process of scheduling a meeting with TDC to progress the project documents; the date of this meeting is subject to confirmation.
8. Funding is not approved until a deed of funding has been signed by TDC and the Ministry. Once signed, funding from the Freshwater Improvement Fund is forecast to be spent towards the development of the infrastructure over a period of three years from 2019/20 onwards.

### Signature



Shaun Lewis  
Director  
Mana Honohono - Investments and Partnerships



Hon David Parker  
Minister for the Environment

26/11/17  
Date

### Ministry for the Environment contacts

Position	Name	Cell phone	1 <sup>st</sup> contact
Principal author	Heather Penny	s 9(2)(a)	
Responsible Manager	Steven Smith	s 9(2)(a)	
Director	Shaun Lewis	021 101 2446	✓

## Document 5

### Update on Waimea Dam (Freshwater Improvement Fund project)

#### Supporting material

##### Context

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*The Freshwater Improvement Fund supports projects that improve the management of New Zealand's fresh water*

9. On 25 April 2016, Cabinet's Vote Environment approvals included the 'Freshwater Improvement Fund' for a total of \$100 million phased across 10 years. The purpose of the fund is to support initiatives which contribute to managing New Zealand's freshwater bodies within environmental (quality and quantity) limits (Cab-16-MIN-0189.11 refers).
10. The focus of the fund is to improve water bodies with the greatest potential for improvement. The fund's assessment criteria give priority to water bodies located in catchments that are identified as 'vulnerable' (using data that includes water quality, pressures, ecological and economic significance). Early intervention in these water bodies has the potential to address issues before remedial costs escalate and options for future use are lost.
11. The fund also encourages collaboration between groups to achieve the greatest impact in improving our fresh water (including the requirement for projects to have a minimum of 50% co-funding from other sources). The fund is able to support projects at different scales and over varying timeframes. This includes one-off short-term projects up to one year as well as longer-term projects taking up to a maximum of five years.
12. Eligibility and assessment criteria for the fund (Appendix 1) were approved by Cabinet on 17 February 2017 (Cab-17-MIN-0017 refers).

*The Minister for the Environment is the delegated authority for deciding on which projects are funded*

13. The Minister for the Environment (the Minister) has the responsibility for making the final decision on which projects are approved for funding, based on recommendations received from an appointed assessment panel (the Panel) and the assessment criteria approved by Cabinet.
14. The former Minister appointed an independent Panel of five members to assess applications to the fund. The Panel members had knowledge of the National Policy Statement for Freshwater Management 2014 (NPS-FM), freshwater ecosystems and water quality, good practice land and water management, Mātauranga Māori, resource management, economics, business acumen and project management.
15. The first contestable funding round was opened for applications on 23 February 2017, closing 7 weeks later on 13 April 2017. Seventy-seven eligible applications were received requesting \$156 million of funding towards total project costs of \$419 million.
16. Panel members individually assessed all applications against the fund's assessment criteria and on their merit against the other applications received, prior to convening at a moderation meeting (in mid-June) to reach consensus on which applications should be recommended for funding. The Panel reached consensus on all of its recommendations.
17. Advice on which projects the Panel recommended for funding, and projects not recommended for funding was provided to the former Minister for decision 13 July 2017.

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*Tasman District Council requested funding for the Waimea Dam project*

18. Tasman District Council (TDC) requested \$7 million from the fund towards total project costs of \$78.4 million for the development of a water augmentation storage dam in the Upper Lee Catchment to service the Waimea Plains and adjoining areas.
19. Historic over-allocation of water from the Waimea Water Management Zones has resulted in regular low summer flows in the Waimea River, severe cutbacks to water users, restricted urban and economic growth and negative impacts on in-stream values.
20. The Waimea Water Augmentation Committee (comprising TDC, iwi, Department of Conservation, Fish and Game, Nelson City Council and Waimea water users) propose a run-of-river dam in the Upper Lee River with a design capacity of 13.4 million cubic metres of water storage. Upon completion, the scheme will deliver water for community supply, irrigation, stock as well as environmental and community flows. The application also included a biodiversity component to improve habitats for threatened species.
21. The Panel acknowledged the significant research undertaken to inform the development of the proposal and that the applicant is seeking to address a long-term issue which is high profile. However, the Panel recommended that the application be declined on the basis that:
  - it did not adequately demonstrate what benefits would be achieved through the fund over and above what would be achieved anyway through the development of the dam
  - the applicant didn't adequately demonstrate where the Crown Irrigation Investments Limited (Crown Irrigation) obligations differ to what is being requested from the fund in relation to environmental outcomes
  - the budget provided was not sufficiently detailed
  - it was unclear how the \$7 million requested would be used, and
  - the co-funding from Crown Irrigation, Waimea Irrigators Limited and Nelson City Council) was still pending.
22. Prior to making final funding decisions, the former Minister sought clarification from seven applicants to establish whether feedback provided through the Panel's assessment process could be addressed. Seeking additional information from applicants in relation to their proposal is permissible and consistent with the decision-making authority for allocating funding from the Freshwater Improvement Fund. The TDC proposal was one of the seven applications that the former Minister sought additional information on.
23. TDC provided supplementary information confirming how the proposed \$75 million capital costs would be attributed to specific outcomes, as follows:
  - Irrigation component (52%) = \$39 million
  - Urban supply (18%) = \$13.5 million
  - Environmental Flow/public good (30%) = \$22.5 million
24. At the time of application, \$14 million of the \$22.5 million attributed to the environmental flows/public good had been provided for within TDC's 2015-2025 Long Term Plan. Approximately \$7 million of the environmental benefit/public good component remained unfunded which was the amount requested from the Freshwater Improvement Fund (to be spent on project costs incurred from 2019/20 onwards).
25. Further details of the environmental flows/public good outcomes expected as a result of the project were also provided, which include:

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- **Enhanced flows:** the dam capacity provides for the preservation of a minimum flow of 1,100 l/s which is the one day mean annual low flow in the lower Waimea River compared to an 800 l/sec target flow (which does not equate to a cease take) in the absence of a dam. Regulation of water flows (particularly drought prevention) is a critical driver for the dam.
  - **Biodiversity enhancement:** It is predicted the increased minimum flow will have positive net effect for adult trout, small trout, eels, torrentfish, koaro, upland bully and the aquatic food producing habitat. The project is also committed to the implementation of a Biodiversity Management Plan and funding a minimum of three stream, river and wetland enhancement projects each year through a Biodiversity Compensation Fund.
  - **Planting/habitat improvement:** a series of planting programmes will take place over multiple seasons, including planting at new sites in the Wairoa Gorge conservation area, planting of lowland alluvial native forest within the Waimea Park and restoration of a wetland on Rough Island.
  - **Pest management:** creation of a pest management area in the upper Wairoa Gorge and weed control in the upper Wairoa Gorge conservation area to enable native forest to regenerate.
26. Based on the additional information provided, the former Minister chose to fund the project with the following funding conditions:
- The funding will contribute to the environmental flow/public good component of the project only (\$22.5 million).
  - The funding is subject to confirmation of co-funding from Crown Irrigation Investments Limited (\$25 million), Waimea Irrigators Limited (\$15 million) and Nelson City Council (\$5 million).
  - The project governance group will include representation by the Ministry.
  - A Work Programme must be developed and include a detailed project budget and funding stage-gates.
27. The funding conditions were put in place to ensure that all co-funding for the project is secured, to ensure that the Ministry is involved in the project governance and to include funding stage-gates to ensure the risk exposure to the Crown is minimised. Named co-funders were based on the information provided within the application form.
28. A total of \$7 million has been approved for the project in principle, to be spent over a period of three years from 2019/20 onwards. Funding is subject to the successful completion of Stage 2 of the Freshwater Improvement Fund funding process.

### *Projects approved for funding progress to Stage 2 of the funding process*

29. All applicants approved for funding are invited to Stage 2 of the funding process. During Stage 2 applicants work with the Ministry to develop a detailed Work Programme and agree to the terms and conditions of a deed of funding. Funding is not approved in full until a deed of funding has been signed by the funding recipient and the Ministry.
30. The Ministry also undertakes independent third party due diligence checks to verify each applicant's ability to deliver their respective project. Due diligence ensures that the necessary legal, financial, project governance, credit and company director checks are in place prior to the Ministry entering into a deed of funding.
31. The Ministry is currently working through Stage 2 for all 34 projects which were approved for funding by the former Minister, including the Waimea Dam project. The current timeframe for signing the deed of funding is expected to be March 2018.. The deed of

## Document 5

funding will have specific clauses to ensure that all funding conditions have been met prior to any funding from the Freshwater Improvement Fund being paid.

32. In parallel to Stage 2, TDC is currently undertaking a community consultation on the ownership, governance and funding options for the dam. TDC has confirmed \$25 million funding for the project in its Long Term Plan 2015-25, and is consulting on models for sharing the Council's dam costs amongst ratepayers and water users, and approach for its ongoing management. Nelson City Council's funding contribution will be subject to a separate consultation with Nelson residents.
33. On 21 September 2017, Crown Irrigation Investments Limited co-signed a letter of agreement with TDC and Waimea Irrigators Ltd (WIL). The letter sets out agreement on the terms for capital raising, water supply and the obligations of each party in relation to the project. The terms of the letter are not legally binding, but do obligate the parties to use reasonable endeavours to complete a number of milestones to achieve financial close for the project. Milestones include the current public consultation with Tasman residents, WIL successfully raising capital through the sale of shares, securing the necessary land, an agreed pre-construction cost allocation, and finalising a successful tender for construction of the dam.
34. Funding for the project from the Freshwater Improvement Fund cannot be made until the proposed \$25 million from CIIL is secured in full.

### *Media coverage of the Waimea Dam project*

35. There has been a range of media in relation to the Waimea Dam project and funding from the Freshwater Improvement Fund. This includes articles which have queried whether the proposal is eligible to receive funding, given that it is not located in a catchment identified as 'vulnerable'.
36. To have been considered for funding, applications must first have met all the fund's eligibility criteria (Appendix 1). All eligible applications were then assessed on the degree to which they met the assessment criteria, which included whether the project will be addressing a catchment identified as 'vulnerable'. Applications for projects located in areas not identified as 'vulnerable' were still eligible to apply for funding, but were given a lower priority compared to other projects rating similarly on all assessment criteria and located within vulnerable catchments.
37. The Waimea Dam project successfully met all of the fund's eligibility criteria for the fund and was therefore assessed for funding by the Panel. The project is one of 16 approved for funding not located in a catchment identified as vulnerable. Sixteen projects approved for funding are located in vulnerable catchments.

### **Legal issues**

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38. There are no legal issues with this paper.

### **Financial implications**

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39. The former Minister approved \$46.465 million from the Freshwater Improvement Fund to support 34 projects, phased over the next five financial years. With this commitment, we expect that it will be five years until the next funding round can be held (when additional funding will become available through the ten year appropriation).

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### Next Steps

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40. Ministry officials are in currently liaising with TDC to confirm a date to progress Stage 2 and agree on the final Work Programme and deed of funding. The current timeframe for signing the deed of funding is expected to be no later than March 2018.

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### Appendix 1: Eligibility and Assessment Criteria

#### Eligibility criteria

Projects must meet all of the following criteria to be eligible to apply. The application form contains a self-assessment checklist which must be completed as part of the application process.

Eligibility criteria	
1	The project must contribute to the improvement of the management of New Zealand freshwater bodies.
2	The project must address one or more of the following: <ul style="list-style-type: none"><li>• achieve demonstrable co-benefits such as:<ul style="list-style-type: none"><li>- improved fresh, estuarine or marine water quality or quantity</li><li>- increased biodiversity, habitat protection, soil conservation</li><li>- improved community outcomes such as recreational opportunity or mahinga kai</li><li>- reduction to current or future impacts of climate change</li><li>- reduced pressure on urban or rural infrastructure</li></ul></li><li>• increase iwi/hapū, community, local government, or industry capability and capacity in relation to freshwater management</li><li>• establish or enhance collaborative management of fresh water</li><li>• increase the application of mātauranga Māori in freshwater management</li><li>• include an applied research component which contributes to improved understanding of freshwater interventions and their outcomes.</li></ul>
3	The minimum request for funding is \$200,000 (excluding GST).
4	The fund will cover a maximum of 50 percent of the total project cost (excluding in-kind contributions).
5	The project will be funded for a maximum period of up to 5 years, after which the project objectives will have been achieved or the project will be self-funding.
6	The project must achieve benefits that would not otherwise be realised without the fund or are not more appropriately funded through other sources.
7	The effectiveness of the project and its outcomes will be monitored, evaluated and reported.
8	An appropriate governance structure is in place (or will be established as part of the project).
9	The applicant is a legal entity.

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### Assessment criteria

Applications to the fund are measured against assessment criteria. The assessment panel reviews, scores and assesses applications that meet the eligibility criteria by determining the extent to which and how well the project meets the assessment criteria.

Assessment criteria	
1	The extent to which the project addresses the management of freshwater bodies identified as vulnerable.
2	The project demonstrates improvement in the values and benefits derived from the freshwater body.
3	The extent to which public benefit is increased.
4	The project demonstrates a high likelihood of success based on sound technical information or examples of success achieved through comparable projects undertaken elsewhere.
5	The extent to which the project will leverage other funding.
6	The project will involve the necessary partner organisations to ensure its success.
7	The project will engage personnel with the required skills and experience to successfully deliver the project.

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