

RESOURCE CONSENT APPLICATION

U150533

Constellation Brands New Zealand

2080 State Highway 63, Wairau Valley

Submissions Close

5.00 pm Monday 10 August 2015

Constellation Brands New Zealand Ltd

Resource Consent Application for a Reservoir and Associated Consents

June 2015

1461-Constellation-Erina dam

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Resource Consent Application

This application is made under Section 88 of the Resource Management Act 1991



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Please read and complete this form thoroughly and provide all details relevant to your proposal. Feel free to discuss any aspect of your proposal, the words used in this form or the application process with Council staff, who are here to help.

This application will be checked before formal acceptance. If further information is required, you will be notified accordingly. When this information is supplied, the application will be formally received and processed further.

You may apply for more than one consent that is needed to cover several aspects of the activity on this form.

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Document Number:
RAF0002-CI1550

Lodgement Fee Paid \$

Receipt No.

Consent No.

Case Officer:

Date Received:

1. Applicant Details *(If a trust, list full names of all trustees.)*

Name:
(full legal name)

Constellation Brands New Zealand Limited

Mailing Address:
(including post code)

PO Box 260
Blenheim 7240

Email Address: david@cbrands.com

Phone: (Daytime) _____

Phone: (Mobile) 027 439 5861

2. Agent Details *(If your agent is dealing with the application, all communication regarding the application will be sent to the agent.)*

Name: Paul Williams

Mailing Address:
(including post code)

RMco Ltd
PO Box 820
Blenheim 7240

Email Address: paul@rmco.co.nz

Phone: (Daytime) 577 9239

Phone: (Mobile) 0274 577 009

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3. Type of Resource Consent Applied For

Coastal Permit Discharge Permit Land Use Subdivision Water Permit

4. Brief Description of the Activity

To construct a lined earthen reservoir for the storage of up to 60,000 cubic metres of water for back up irrigation requirements for a vineyard.

To dam (impound) up to 60,000 cubic metres of water in the reservoir structure.

To take up to 72,000 cubic metres of Class C water from the Wairau River per year to fill the reservoir and top up the reservoir.

5. Supplementary Information Provided?

Yes No

Council has supplementary forms for some activities, such as moorings, water permits, domestic wastewater, discharge permits, to assist applicants with providing the required information.

6. Property Details

The location to which the application relates is (address): 2144 State Highway 63

Legal description (i.e. Lot 1 DP 1234): Pt Sec 1 SO1515; Sec 2 Sec 11S Erina SETT; Sec 1 2S Erina SETTt

(Attach a sketch of the locality and activity points. Describe the location in a manner which will allow it to be readily identified, e.g. house number and street address, Grid Reference, the name of any relevant stream, river, or other water body to which application may relate, proximity to any well known landmark, DP number, Valuation Number, Property Number.)

Please attach a copy of the Certificate of Title that is less than 3 months old (except for coastal or water permits).

The names and addresses of the owner and occupier of the land (other than the applicant):

The land is leased from Erina Downs Marlborough Limited

Please attach the written approval of affected parties/adjoining property owners and occupiers.

Note: As a matter of good practice and courtesy you should consult your neighbours about your proposal. If you have not consulted your neighbours, please give brief reasons on a separate sheet why you have not.

7. Assessment of Effects on the Environment (AEE) *(Attach separate sheet detailing AEE.)*

I attach, in accordance with Schedule Four of the Resource Management Act 1991, an assessment of environmental effects in a level of detail that corresponds with the scale and significance of the effects that the proposed activity may have on the environment. Applications also have to include consideration of the provisions of the Resource Management Act 1991 and other relevant planning documents.

Note: Failure to submit an AEE will result in return of this application.

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8. Other Information

Are additional resource consents required in relation to this proposal? If so, please list and indicate if they have been obtained or applied for.

I attach any other information required to be included in the application by the relevant Resource Management Plan, Act or regulations. Yes No

9. Fees

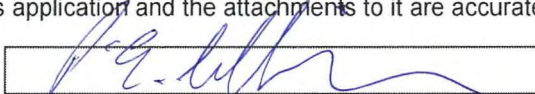
- 1. The applicable lodgement (base) fee is to be paid at the time of lodging this application. If payment is made into Council's bank account 02-0600-0202861-02, please put Applicant Name and either U-number, property number or consent type as a reference. If you require a GST receipt for a bank payment, please tick
- 2. The final cost of processing the application will be based on actual time and costs in accordance with Council's charging policy. If actual costs exceed the lodgement fee an invoice will be issued (if actual costs are less, a refund will be made). Invoices are due for payment on the 20th of the month following invoice date. Council may stop processing an application until an overdue invoice is paid in full. Council charges interest on overdue invoices at 15% per annum from the date of issue to the date of payment. In the event of non-payment, legal and other costs of recovery will also be charged.
- 3. Please make invoice out to: Applicant Agent
(if neither is ticked the invoice will be made out to Applicant)

10. Declaration

I (please print name) Paul Williams

confirm that the information provided in this application and the attachments to it are accurate.

Signature of applicant or authorised agent:



Date:

15/6/15.

Privacy Information

The information you have provided on this form is required so that your application can be processed and so that statistics can be collected by Council. The information will be stored on a public register and held by Council. Details may be made available to the public about consents that have been applied for and issued by Council. If you would like access to or make corrections to your details, please contact Council.

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Contents

| | | |
|-----|--|----|
| 1 | Executive Summary | 4 |
| 2 | Location..... | 4 |
| 3 | Receiving Environment..... | 5 |
| 3.1 | Reservoir Site | 5 |
| 3.2 | Water Resource | 5 |
| 3.3 | Statutory Acknowledgements..... | 5 |
| 4 | Proposal Detail | 6 |
| 4.1 | Reservoir Structure | 6 |
| 4.2 | Abstraction of Class C Water | 6 |
| 5 | Activity Status..... | 7 |
| 5.1 | Resource Management Act..... | 7 |
| 5.2 | Wairau/ Awatere Resource Management Plan | 7 |
| 6 | Assessment..... | 8 |
| 6.1 | Actual & Potential Effects..... | 8 |
| 6.2 | Objectives & Policies..... | 10 |
| 6.1 | National Environmental Standards..... | 11 |
| 6.2 | National Policy Statement | 11 |
| 6.3 | Regional Policy Statement | 11 |
| 7 | Potentially Adversely Affected Persons & Consultation..... | 11 |
| 8 | Conclusions..... | 12 |
| | Appendix 1 – Location..... | 0 |
| | Appendix 2 – Aerial Photograph..... | 1 |

Appendix 3 – Engineering Report.....2

Appendix 4 – Plans3

Appendix 5 - Water Permit Application Form4

Appendix 6 – Analysis of Requirements of Schedule 4 of the Act.....5

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1 Executive Summary

The applicant, Constellation Brands New Zealand Limited (Constellation), leases land in the Wairau Valley for vineyard purposes. The land is owned by Erina Downs Marlborough Limited and is located at 2144 State Highway 63, approximately 1.6km west of Loddon Lane.

The land has previously been used for grazing stock but is now progressively being developed into vineyards.

Water permit U140949 provides for the take of up to 8730 cubic metres of Class B water from the Wairau River via an infiltration gallery for the irrigation of 215ha of grapes and/or 80ha of pasture and crops.

The applicant proposes to construct an earthen reservoir for the storage of Class C water to deal with any shortfall in irrigation requirements when Class B water is restricted.

The reservoir will hold 60,000 cubic metres of water, have a maximum depth of water of 6.35 metres and a maximum embankment height of 5.7m above a lower terrace. It will be lined with a high density polyethylene liner.

Taking into consideration potential evaporation losses, up to 72,000 cubic meters of Class C water is sought from the Wairau River via an existing intake to fill the reservoir.

The reservoir has been designed by engineer Tim Smit in accordance with the New Zealand Society of Large Dams (NZSOLD) guidelines and assessed as having a low Potential Impact Category (PIC).

The adverse effects of the proposed reservoir and Class C water take to fill it will be within acceptable limits.

The proposal is in accord with the objectives and policies of the Wairau/ Awatere Resource Management Plan which encourages water harvesting.

Overall the proposal meets the purpose of the Resource Management Act as set out in Section 5 - the sustainable management of natural and physical resources.

2 Location

The entrance to the subject site is located at approximately 2144 State Highway 63, approximately 1.6km west of Loddon Lane.

The legal description of the site is Pt Sec 1 SO1515; Sec 2 Sec 11S Erina SETT; Sec 1 2S Erina SETT.

A plan in Appendix 1 shows the general location.

The proposed reservoir is more or less centrally located on the block. An aerial photograph in Appendix 2 shows the location in relation to the property boundaries and surrounds.

3 Receiving Environment

3.1 Reservoir Site

A detailed description of the site is found in Section 4, of the engineering report which in turn is found in Appendix 3 of this application document.

3.2 Water Resource

The Wairau River at the intake site is typical of most of the middle reaches with a braided gravel bed width of approximately 700m and flow concentrated in a dominant braid but with smaller braids also flowing.

Council records indicate that the average annual minimum flow of the Wairau River is 12.04m³/s and the mean flow is 103m³/s as measured at their Tuamarina recorder.

3.3 Statutory Acknowledgements

Statutory acknowledgements are set out in the document *Te Tau Ihu – Statutory Acknowledgements 2104* which is an attachment to the Wairau/ Awatere Resource Management Plan.

Rangitane o Wairau, Ngati Rarua and Ngati Toa have noted cultural, spiritual, historical and traditional associations with the land that is proposed to be irrigated and where the well is situated. Rangitane in particular note that the Wairau River and its tributaries are central to their identity in the Wairau.

While the above three iwi authorities have noted their general associations with the land including the subject site, no specific sites of cultural, spiritual, historical or traditional significance are identified at or near the specific site of this proposal in the statutory acknowledgement document.

4 Proposal Detail

4.1 Reservoir Structure

A detailed description of the proposed reservoir is found in Section 5 of the engineering report.

The main features of the proposed reservoir are as follows:

- It will contain 60,000m³ of water;
- The maximum depth of water will be 6.35m;
- The maximum height of the reservoir embankment will be 5.7m above the lower terrace to the north and 3.6m above the upper terrace level;
- It will be lined with 1.5mm thick continuously welded high density polyethylene (HDPE) liner;
- Embankment slopes (both inside and outside) are to be in the order of 1V:3H;
- Freeboard is to be 0.9m;
- An emergency spillway is to be 4.7m wide at the top and 2m wide at the base with 1:3 batters;

4.2 Abstraction of Class C Water

Assuming an evaporation loss of 20% of the storage volume, up to 72,000 m³ of Class C Wairau water will be abstracted annually to fill the reservoir.

This water is proposed to be taken from the Wairau River via an existing infiltration gallery (U090496) that is currently used to abstract irrigation water under permit U140949.

The applicant is aware of the Trustpower hydroelectric power scheme the Wairau Valley Water Enhancement Scheme and accepts relevant conditions of consent as follows or similar:

The consent shall expire on the earlier of:

(a) 20 years from the date of issue; or

(b) The water permit held by the Wairau Valley Water Enhancement Company Ltd U040224 is exercised and water subject to that consent is either physically available to be taken by the holder of the consent

subject of this condition for the volume and uses granted or is capable of being made physically available to be taken, at the boundary of the property to which this consent applies; or

- (c) *The water permit authorising water abstraction for the purposes of electricity generation held by Trustpower Limited under U050729 is exercised and water subject to that consent is either physically available to be taken by the holder of the consent subject of this condition for the volume and uses granted, or is capable of being made physically available to be taken at the boundary of the property to which this consent applies.*

5 Activity Status

5.1 Resource Management Act

Section 9 of the Act requires that (paraphrased) no person may use land in a manner that contravenes a rule in a district plan unless the activity is expressly allowed by a resource consent granted by the council responsible for the plan. The section of the Act applies to the construction and operation of the reservoir as land use activities.

Section 14 of the Resource Management Act 1991 (the Act) requires that (paraphrased) no person may take, dam or use any water unless it is allowed by a regional rule or resource consent. This section of the Act applies to the taking of Class C water to fill the reservoir and the impounding of water within the dam structure.

5.2 Wairau/ Awatere Resource Management Plan

The property is zoned *Rural 4* in the Wairau/ Awatere Resource Management Plan (the Plan).

Dam as a Land Use Activity

General Rule 27.1.6.1 of the Wairau/ Awatere Resource Management Plan (the Plan) sets out permitted activity standards for the construction of dams. As the proposed reservoir will impound more than 20,000m³ of water and the maximum height of the dam walls will be higher than 4m, resource consent is required as a discretionary activity in accordance with 27.1.6.2.

Impounding (Damming) of Water Within the Structure

Rule 27.1.6.2 includes the damming or impounding of water within the reservoir structure as a discretionary activity emphasis in bold is mine:

The construction or alteration of any dam, and the associated damming of water, which cannot comply with the conditions for a Permitted Activity.

Water Take

General Rule 27.1.2.2 provides as follows:

An abstraction of Class C water for the purpose of retaining water in storage is a Controlled Activity provided that the activity conforms to the following Standards and Terms.

27.1.2.2.1 Standards and Terms

(a) Water meters or other approved methods of determining volume abstracted are fitted at the abstraction point.

(b) Water is taken only during the period when the Council informs users that Class C water may be taken.

Matters over which the Council will exercise control and may impose conditions are outlined in Rule 27.1.2.2.2:

(a) Permit volumes and maximum rate of take.

(b) Permit terms and review periods - all water storage takes will be granted a Class C permit.

(c) Monitoring requirements.

(d) Rationing requirements.

(e) Circumstances where permits may be revoked.

As all of the above matters can be met, this part of the proposal is a controlled activity.

6 Assessment

An overview analysis of the requirements of Schedule 4 of the Act is found in Appendix 6.

6.1 Actual & Potential Effects

Effects on Neighbourhood, Community

There are no particular adverse effects on the wider community. Vineyard development including reservoirs are a common and accepted part of the Marlborough rural environment. There are potential effects on the neighbouring property to the east in the very unlikely event of dam break. This is discussed in more detail below under *Hazards and Potentially Affected Parties*.

Effects on the Locality, Landscape, Visual

The site is not noted as an outstanding natural feature or landscape in the Plan.

The reservoir will be located approximately 660m north of State Highway 63. When viewed from a vehicle it will not be readily discernible looking through the vineyard.

There will be no significant adverse effects on the locality, landscape or visual qualities of the area.

Effects on Ecosystems

There are no particular ecosystems of note at the site of the reservoir. Class C water is to be drawn from the Wairau River to fill the dam. This is water that is essentially surplus to ecological requirements in the River system.

There will be no noticeable effects on ecosystems.

Effects on Aesthetic, Recreational, Scientific, Historical, Spiritual, or Cultural Values

There are no particular aesthetic issues with this proposal and the site is not noted for any recreational values. The site is not noted in the Plan as having any significant scientific or European historical significance. It is not noted in the document *Te Tau Ihu – Statutory Acknowledgements 2104* as having specific sites of cultural, spiritual, historical or traditional significance to Maori.

Effects of Discharge of Contaminants

No discharge of contaminants is proposed or will result from this proposal.

Risk Through Natural Hazards, Hazardous Substances, Hazardous Installations

No hazardous substances will be used or hazardous installations proposed.

The proposed reservoir site is some 1.95km north of the active Wairau Fault. This issue is addressed in Section 4 of the engineering report in Appendix 3. The impact of potential seismic forces will be taken into account in the final reservoir design.

An analysis of the potential for dam break and potential impact if it did occur is found in Chapter 7 of the engineering report.

The reservoir is lined with a high density polyethylene membrane, will hold a relatively modest volume of water and its design undertaken and construction supervised by an experienced Engineer, Tim Smit. The reservoir has been assessed as having a low Potential Impact Category (PIC) under the NZSOLD guidelines. Given that the reservoir will have a liner, dam break (if it did occur) would not be a catastrophic event but flow would be released relatively slowly.

The proposed reservoir is located approximately 840m south of the active Wairau River channel. Any discharge of water in the event of dam failure would travel across neighbouring land to the east before discharging into the Wairau River. That land is owned by Indevin Estates Ltd, is established vineyards and is legally described as Lot 1 DP7495 and Pt Lot 2 DP7495. Any dam break discharge would be considerably less in volume than natural flood levels in the Wairau River.

Effects of Water Abstraction

The Class C allocation limits for abstraction of water from the Wairau River have been determined in the Plan on the basis of the Council's and the community's determination of the sustainable flow regime for the River. Rule 27.1.1.2.4 specifies Class C water abstractions are only available at flows above the flow in the River that is exceeded 80% of the time. There is no upper limit on allocation of Class C permits. This is effectively water that is in excess of the sustainable flow regime (SFR) for the natural functioning and ecology of the river and also in excess of Class B allocations.

In essence, in setting allocation limits for abstraction from the River, the Plan process has determined that the adverse effects of abstraction on the water quantity, quality and aquatic ecology are no more than minor.

6.2 Objectives & Policies

Water Harvesting

While acknowledging the need to safeguard the life-supporting capacity of water resources, the Wairau/ Awatere Resource Management Plan is essentially permissive in its approach to water abstraction and use. This is borne out in Clause 6.2.1, Objective 1 of the Plan:

To provide for the taking, use, damming and diversion of fresh water in a manner which safeguards the life supporting capacity of the resource and avoids, remedies or mitigates any adverse effects on the environment.

Clause 6.4.1, Objective 1 is:

To establish an efficient resource use regime and support sustainable management of the freshwater resource.

Subordinate Policy 1.3 is:

To encourage water storage in water short areas, for use during low flow and level periods, by exempting water retained in storage from any conditions on use, and when flows are high allowing water to be drawn off for storage purposes.

Comment: The Plan is clearly encouraging water harvesting and storage proposals as a one of the means of achieving equitable and efficient water use. The controlled activity status of Class C water takes also supports this stance in the Plan.

6.1 National Environmental Standards

There are no National Environmental Standards that are relevant to this proposal.

6.2 National Policy Statement

The National Policy Statement for Freshwater Management 2014 (NPSFM) seeks to stop Councils from over-allocating water resources and institute methods to phase out over-allocation.

The Wairau River Class C water is not over-allocated.

6.3 Regional Policy Statement

I have reviewed the application against the provisions of the Marlborough Regional Policy Statement (RPS). There are no matters in that document that have not already been covered by analysis of the objectives and policies of the Plan.

7 Potentially Adversely Affected Persons & Consultation

The following persons have been identified as being potentially affected by this proposal:

- Erina Downs Marlborough Limited - the owners of the leased property;
- Indevin Estates Limited – owners of neighbouring land to the east over which water would flow in the unlikely event of failure of the reservoir.

Written approvals will be obtained from these parties and forwarded to Council in due course.

8 Conclusions

The adverse effects of the proposed reservoir and Class C abstraction will be within acceptable limits.

The proposal is in accord with the relevant objectives of the Plan.

Given the above, the applicant respectfully requests that consent be granted.

Paul Williams
Resource Management Consultant

June 2015

Appendix 1 – Location



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Appendix 2 – Aerial Photograph



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Appendix 3 – Engineering Report

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Constellation Brands NZ Ltd

Erina Downs Reservoir

Technical Report in Support of Resource Consent Application

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MARLBOROUGH MANAGEMENT SERVICES LTD

65 Cob Cottage Road
RD 4
Riverlands
BLENHEIM 7274

Phone: (03) 577 5954
Fax: (03) 578 5481
Mobile: (021) 221 0003
E-mail: tim@smitventures.co.nz



TABLE OF CONTENTS

| | | |
|------|---|----|
| 1. | <i>Terms of Reference</i> | 1 |
| 2. | <i>Introduction/Background</i> | 1 |
| 3. | <i>Proposed Reservoir Location</i> | 1 |
| 4. | <i>Description of the Site and Geotechnical Conditions</i> | 1 |
| 5. | <i>Proposed Reservoir Layout / Configuration</i> | 3 |
| 6. | <i>Reservoir Design</i> | 4 |
| 6.1. | <i>Embankment</i> | 4 |
| 6.2. | <i>Reservoir Spillway / Freeboard</i> | 4 |
| 6.3. | <i>Reservoir Outlet and Inflow Pipelines</i> | 5 |
| 6.4. | <i>Reservoir Drainage</i> | 5 |
| 7. | <i>Dam Break Assessment and Effects</i> | 5 |
| 8. | <i>Construction Methods</i> | 8 |
| 9. | <i>Conclusion</i> | 8 |
| 10. | <i>Applicability</i> | 8 |
| | <i>Appendix A – Concept Reservoir Plan and Cross Sections</i> | 9 |
| | <i>Appendix B – Test Pit Logs</i> | 12 |

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1. Terms of Reference

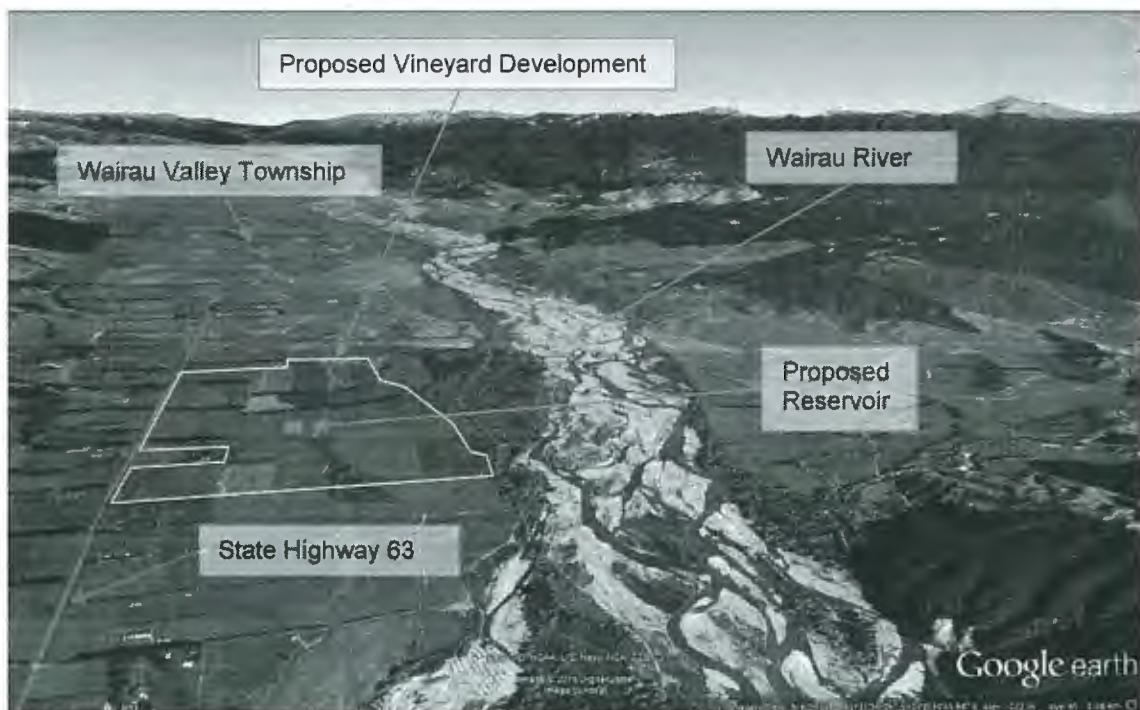
Marlborough Management Services Ltd has been engaged by Constellation Brands NZ Ltd to undertake the concept design and prepare a technical report for the proposed Erina Downs storage reservoir. This report has been prepared for inclusion into the Resource Consent Application being prepared by RMCo Ltd.

2. Introduction/Background

Constellation Brands NZ Ltd requires this new storage reservoir to provide a secure supply of water for the irrigation of a proposed 160 hectare vineyard development on their property in the Wairau Valley. Constellation Brands NZ Ltd has Wairau River Class B irrigation water. Back-up storage is required in the event of the Wairau River water permit being restricted due to low river flows.

3. Proposed Reservoir Location

The proposed reservoir is to be constructed some 1.3km east of the Wairau Valley township, on SECS 3S 3AS 2 OF 11S 12S 19S PT 2S ERINA SETT SECS 2 3 PT S EC 1 SO 6998 and Pt SEC 1 SO 1515 owned by Erina Downs Marlborough Ltd and leased to Constellation Brands NZ Ltd. Refer to the locality plan below showing the location of the proposed reservoir relative to the proposed vineyard development, State Highway 63, the Wairau River and Wairau Valley township.



Locality Plan Looking West

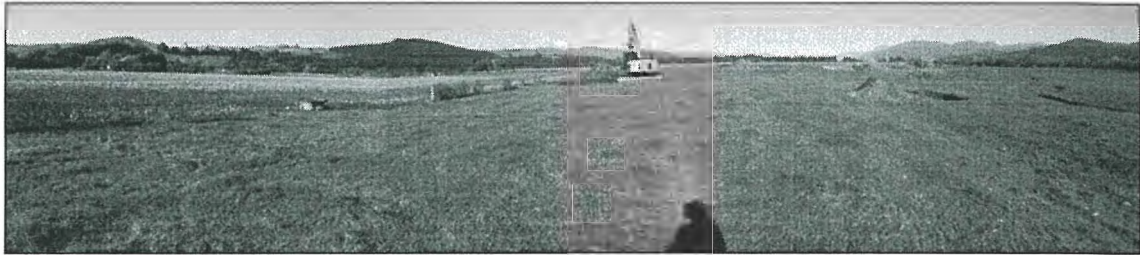
4. Description of the Site and Geotechnical Conditions.

The new reservoir is proposed to be constructed near the centre of the proposed Constellation Brands NZ Ltd Wairau Valley vineyard.

The landform in the location of the proposed reservoir is dominated by a natural east-west, 2.5m high, terrace bank and an ephemeral creek which generally follows the bottom of this terrace bank.

The terrace bank slope is approximately 4m horizontal for every 1m vertical. Land either side of this terrace slopes is generally flat, although there is an approximate west to east fall across the land above and below the terrace of 1 in 100.

The flat land to be occupied by the proposed reservoir is covered in grass pasture and cropping and in addition to the creek there exists the main 33kV power lines that run down the valley.



Panorama photo taken from north-eastern corner of the proposed reservoir, looking west along the terrace edge with the creek and power lines to the left (north).

Field investigations were carried out on 30 April 2015 with the help of a 20 tonne excavator and six test pits were dug around the site, with depths ranging from 3.5 to 4.9m. Refer to the concept reservoir plan, attached in Appendix A, which shows the location of the trial pits (Test Pit A to Test Pit F).

Test pits A to F all show similar soil profiles, being:

- a 0.2m thick layer of dry, dark brown, gravelly silt topsoil with roots and gravels ranging from 0 - 100mm (with the exception of Test Pit C where the topsoil had no gravel), over;
- a 0.3 to 0.6m thick layer of dry, light brown, gravelly silt with roots and gravels ranging from 0 - 100mm, (with the exception of Test Pit C where the silt had no gravel) over;
- a 1.4 to 3.7m thick layer of dry, grey/brown sandy gravels ranging from 0 - 200mm with lenses of finer, open gravels ranging from 0-100mm, over;
- moist and/or wet, mottled, black/grey, sandy gravels ranging from 0 - 200mm with lenses of finer, open gravels ranging from 0-100mm. The moisture varied between test pits with free water in some and only damp in others.

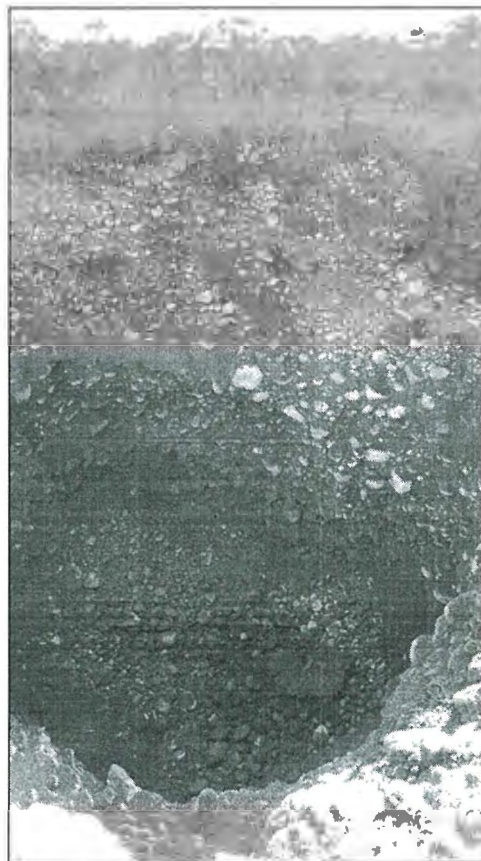


Photo of Test Pit D showing typical soil layers.

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Photo showing material excavated from trial pit Test Pit D.

Due to stock in the paddocks, the test pits were backfilled on the same day. Hence the static water level could not be determined. The test pits were also excavated at the end of an unseasonably dry summer and groundwater level were lower than would be expected in winter, and during the anticipated construction period.

Review of the soil/gravels exposed in the test pits, and from discussions with the landowner, we expect that the winter static water table would rise to the interface between the grey/brown and mottled black/grey gravels. This anticipated groundwater levels is shown on the concept reservoir cross sections, attached in Appendix A

Refer to Appendix B for detailed test pit logs.

The proposed reservoir site is close to the active Wairau Fault which runs some 1.95km to the south of the proposed reservoir site.

This fault lines could both affect the reservoir by means of seismic instability or liquefaction, although the latter is unlikely due to the nature of the gravels which exist in this area. Liquefaction generally only occurs in areas with thick, uniformly graded, saturated sand and silt layers.

If such sand and silt layers are found under the proposed embankment, these will be removed and replaced with compacted sandy gravels.

The impact of these seismic forces will be taken into account in the final reservoir design.

5. Proposed Reservoir Layout / Configuration

The new 60,000m³ reservoir is proposed to be constructed with the northern embankment straddling the existing terrace bank and occupy an area south of the creek and power lines and east of the legal road reserve that exists across the property.

For efficiency the reservoir is roughly designed as a square.

To assist with draining the reservoir, the floor of the reservoir has been graded at 0.4% to a 0.5m deep sump in the north-eastern corner.

The reservoir has been designed with an average water depth of 5.6m and a maximum water depth of 6.35m due to the slope in the reservoir floor and the a 0.5m deep sump in the lowest corner.

The average embankment height is 3.6m above the top terrace level and the maximum embankment height in the north-eastern corner is 5.7m above the lower terrace level. The invert of the reservoir sump is a further 1.5m below the lower terrace level at this location.

The completed reservoir occupies an area of some 2.26ha.

Please refer to the Preliminary Reservoir Plan and Typical Cross Sections, attached as Appendix A.

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Page 3**

6. Reservoir Design

6.1. Embankment

The reservoir will be designed in accordance with the New Zealand Society of Large Dams (NZSOLD) Guidelines and will comply with all relevant legislation, including the Building Act.

As a lined reservoir, the reservoir embankment will be designed to meet stability requirements only, as the synthetic liner will replace the low permeability core commonly found in other earthfill dams. Without having completed this stability analysis, based on many other similar lined reservoirs successfully completed in the district, the embankment will likely have side slopes of 1m V in 3m H inside and outside.

The crest is proposed to be 4m wide to facilitate access around the reservoir.

The maximum height of the wall, above natural ground level, will be 5.7m.

The earth embankments will consist of reworked, well compacted sandy gravels and gravelly sands, which will all be obtained from excavation within the proposed reservoir. Based on local experience on similar structures, the design allows for a 15% to 20% reduction of these materials from their natural state to a compacted state and should result in a near balance of cut to fill.

The total earth fill required for the reservoir has been estimated at 26,640m³ compared to a total combined cut volume from within the reservoir of 29,420m³, allowing for around 10% bulking factor.

The sandy gravel and gravelly sand fill materials are excellent for building structural embankments, although they are clearly not good for retaining water. Hence it is proposed to line the reservoir with a continuously welded, 1.5mm thick, HDPE liner.

To protect the HDPE liner from possible punctures from the underlying sandy gravel fill the finished internal slope of the reservoir will be covered with a minimum 25mm layer of blinding material, prior to the placement of the liner. This blinding material will ideally be won from the sands and silts found on site, or alternatively may have to be imported.

The blinding layer on the inside faces of the reservoir needs to be a clean, easily worked material to provide a smooth layer, without any sharp stones that may puncture the HDPE liner, which will be placed directly onto it.

The liner will be anchored into a 0.6m deep, 0.6m wide anchor trench along the crest of the embankment.

All stripped topsoil will be placed on the outside face of the reservoir and grassed on completion.

6.2. Reservoir Spillway / Freeboard

Other than any precipitation which falls directly on the lined surface itself, the reservoir has no catchment area, as one would find with a dam on a river, stream or creek.

The reservoir will therefore have only a relatively small spillway, just to cope with this minimal rainfall capture, and to discharge any pumped water, if for some reason the pumps filling the reservoir were kept going after it was full.

The size of the spillway is therefore largely dictated by construction practicalities as 1.5mm HDPE liner is relatively rigid. For these reasons, a 4.7m wide spillway is proposed with a 2m wide bottom and 1 in 3 sloped sides approximately midway along the northern embankment of the reservoir. The water from this spillway will be channelled in a HDPE lined open channel down the embankment from where it will discharge through a culvert into the existing creek to the north.

Freeboard is similarly not required for flooding reasons and is purely to cope with wave action. As the water surface when the reservoir is full is only 160m long, in the prevailing north-west/south-east wind diagonal directions, the fetch for wave formation is quite limited. A total freeboard of 0.9 metres is therefore deemed appropriate.

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6.3. Reservoir Outlet and Inflow Pipelines

As mentioned earlier, the reservoir floor will be designed with a fall towards a 0.5 metre deep sump, in the north-eastern corner of the proposed reservoir. This sump will allow the majority of the water stored to be drawn for irrigation, without a suction vortex occurring at the pipe end.

The final outlet pipe underneath the embankment will be determined as part of the vineyard irrigation design, but is likely to be in the order of 200 to 250mm diameter.

The pipe will consist of continuously welded HDPE which will be installed in a reinforced concrete surround, to prevent deformation of the pipe due to the weight of 7m high fill constructed over it.

Where the pipes enters the reservoir, the concrete surround will be finished to match the internal dam profile and a HDPE E-lock Channel will be cast into the concrete, to allow the liner to be "welded" to the concrete and its integrity to be continuous. In addition a "boot" made from the liner will be welded to the liner and strapped to the pipe with stainless steel straps.

The inflow pipeline is proposed to come over the reservoir wall and discharge into the reservoir above full water level. Hence, no liner penetration details will be required and this pipe will be added after the construction of the reservoir has been completed.

6.4. Reservoir Drainage

As can be seen from the typical cross sections on the concept dam drawings (which detail the Test Pits and static ground water level on Section A-A) the dam floor has been designed to be largely above the anticipated winter groundwater table surface. However, as these pits were excavated at the end of summer, it is recognised that the estimated level of this surface may be higher. However, as it is likely that the reservoir will be constructed during winter, the actual winter level should become apparent during excavation of the reservoir.

It is therefore possible that minor water seepage into the lower part of the excavated reservoir may still occur when the water level rises above what was observed in May 2015. This water seepage could be above the final floor level and may therefore create problems during construction and may also result in water pressures lifting the liner when the completed reservoir is empty.

A sub liner drainage network will therefore be installed to avoid these problems, with the drainage outlet discharging out of the lower terrace bank north-east of the sump location.

This network will consist of perforated PVC pipes laid in drainage metal, wrapped in geotextile in the reservoir. Where the drainage pipes crosses under the reservoir embankment it will consist of a continuously welded HDPE which will similarly be installed in a reinforced concrete surround, to prevent deformation of the pipe due to the weight of 7.5m high fill constructed over it. The connection between the two pipe materials will be done as a flanged connection.

The water from the underfloor drainage network will be connected to and discharged into the existing creek. In summer and at time of a low groundwater table, it is unlikely that any groundwater will be collected and drained into the creek. In winter, and at time of a high groundwater table some flow will be collected and discharged to the creek, but this will be limited to the top of the groundwater table and will not affect its level, or availability of this water for other users.

7. Dam Break Assessment and Effects

Most historic reservoir failures have resulted from either seismic events causing embankment rupture, or piping where a small "leak" progressively scours out till a partial or total failure occurs.

Due to their construction methods, synthetically lined, earthfill embankments have a much lower risk profile than normal earth fill dams. This is due to the fact that the HDPE liner is both flexible and strong, and even when ruptured, will not easily tear.

In addition, in the unlikely event of a small hole in the liner occurring, the gravel embankment fill and gravel subgrade under the proposed embankments have a relatively high permeability, allowing some seepage of the water from a hypothetical liner rupture to occur within the fill structure, without structural failure of the embankment.

Such seepage will be picked up by the sub liner drainage and a sudden increase in flows from this system would provide an early warning that a small liner failure may have occurred, allowing the reservoir to be drained and repairs to be undertaken. It is therefore important that following construction, monitoring of the sub liner drainage outlet is undertaken on a programmed regular basis.

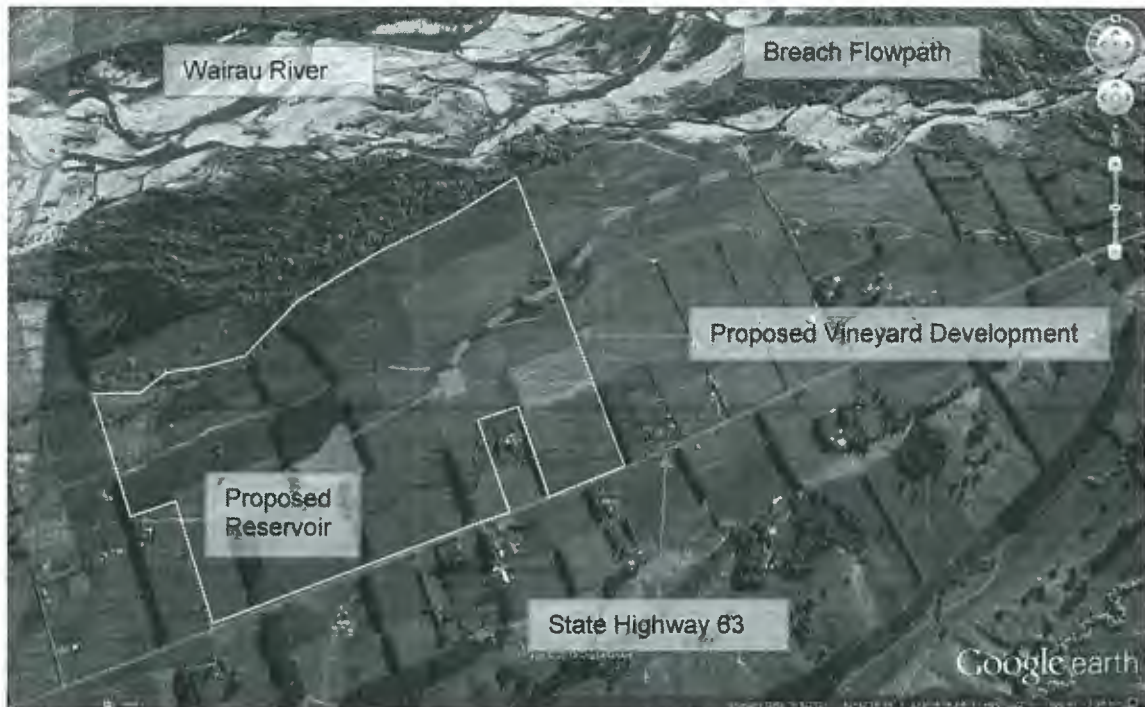
Well compacted silty gravel embankments also have a high internal structural strength, even when relatively saturated, and hence the chances of slumping of the fill during seismic events, will be less than in finer earth fills.

It should however be noted that the reservoir sits relatively close to the active Wairau Fault line.

Reservoirs will generally fail during a significant seismic event where the embankment is at its highest, due to increasing water pressure on the embankment with increasing head.

In the case of the proposed reservoir, the highest embankment is in the north-eastern corner, where the embankment 5.7m high.

Hence, in the unlikely event of a failure, it is most likely to occur in this north-eastern corner and water escaping will discharge onto the Constellation Brands NZ Ltd vineyards and from there flow to the Wairau River. This flow is likely follow the creek on the lower terrace and therefore enter the adjacent vineyard to the east and from there to the river, as shown on the attached marked-up aerial photo.



Plan Showing Breach Flowpath

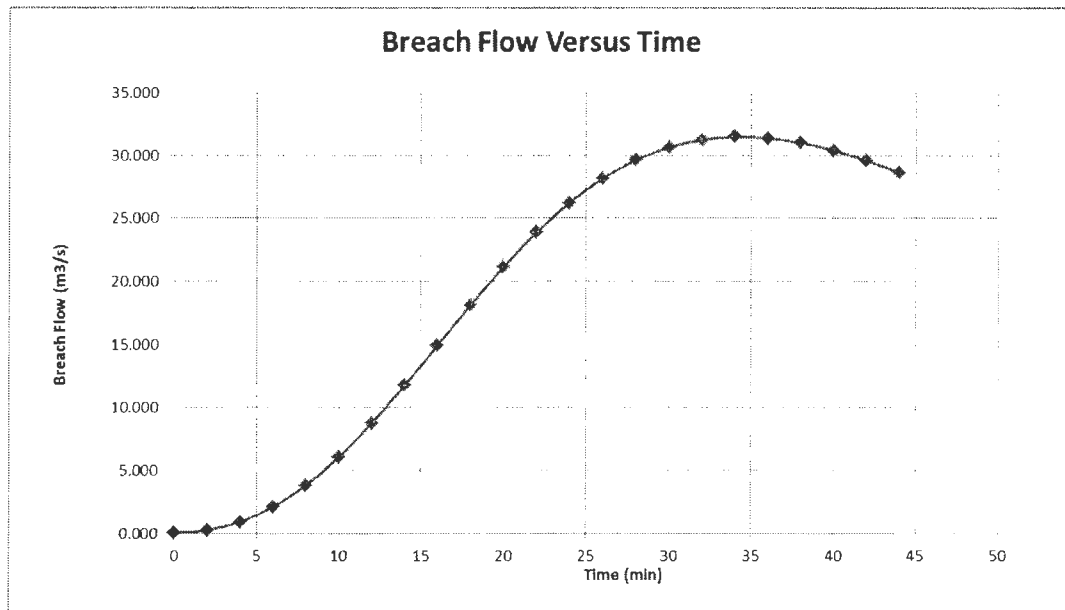
Dam break assessments are carried out to assess a proposed dam's downstream hazard potential so as to set the standard of design and construction required. It must be stressed that they are hypothetical assessments only, which do not reflect the chances of the failure ever occurring.

In this case the dam break assessment has been assumed for a worst case scenario, 30 minute full breach development, which is a reasonable time for a well constructed zoned earth embankment lined with synthetic liner. This is because the liner will still provide some resistance to scour of the fill behind it.

The reservoir was also assumed to be full at the time of the breach and that the breach will only cut down to the level of the lower terrace, which is still 1.5m above the top of the reservoir.

The dam break assessment has resulted in a peak outflow of 28.50m³/s as shown in the graph on the next page.

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Breach Flow Versus Time Curve

This flow steadily increases from nothing to the estimated peak of $28.5\text{m}^3/\text{s}$ over some 32 minutes, after which it reduces back down over a similar period.

The breach flows will discharge to the Wairau River some 1.7km to the east. To reach the river the breach flows will likely follow the path of the existing creek which runs immediately past the reservoir. Assuming a flow width of 55m with sloping sides at 10 to 1 a flow depth of some 0,4m would carry this flood flow at the valley gradient of 1 in 100.

Reviewing the effect of a breach against Tables 1 and 2 of the Building (Dam Safety) Regulations 2008 we note the following:

- The breach flow will enter the Wairau River and natural river flood flows far exceed the breach flows. For comparison, the 1 in 2 year flood flow in the Wairau River is in the order of $2,000\text{m}^3/\text{s}$ and a 1 in 100 year flood is $5,500\text{m}^3/\text{s}$ (data from MDC's Floodwatch System). In the vicinity of the reservoir the river bed is in the order of 400m wide and hence the $28.5\text{m}^3/\text{s}$ breach flow would only raise the water depth by some 70mm. Hence, there is likely to be little or no damage to the natural Wairau River environment from such a breach.
- The downstream creek, into which this breach water will flow, runs through pastoral and vineyard land until it reaches the Wairau River and there are no residential houses in the proposed breach flow path and hence there will be no damage to any residential houses.
- There are no large infrastructure assets in the proposed breach flow path and hence there will be no damage to any.
- There is a minor risk associated with people which could be within the creek or the Wairau River areas downstream of the breach, however, the low depth of flood flow and duration from start to peak would rapidly reduce, as the flow progresses downstream. The population at risk is deemed between zero and 1 to 10 in the unlikely event that someone would be caught immediately downstream of the breach.

It is our opinion that the relative resistance to scour of the drained compacted reworked sandy gravel embankment fill as well as the scour protection of the HDPE liner to the fill during a breach would make it less likely that a full breach would occur in a period as short as 30 minutes. We have been involved with lined reservoirs which have had concentrated leaks in the past. These had developed as tears in the liner and in all cases these have not developed/increased quickly and have been picked up through increases in discharge in the underlined drainage network and were repaired before they became a serious problem.

Based on the relatively small size of the reservoir, the review above, the reduced risk of failure with a lined reservoir over permeable gravels, and the capacity of the Wairau River to cope with the peak estimated breach flow, the reservoir has been assessed as having a Low Potential Impact Category (PIC).

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8. Construction Methods

The reservoir will be constructed in accordance with the New Zealand Society of Large Dam Guidelines by a contractor experienced with this type of work. The reservoir construction will also be under a standard civil engineering construction contract with adequate supervision by a representative of the design firm, allowing a Construction Producer Statement to be provided.

Construction will largely be undertaken with excavators, trucks and vibrating roller compactors to ensure the earth fill meets recognized compaction criteria.

On completion of earth filling, the inside surface of the reservoir will be "dressed" with a minimum of 25mm of sand or silt blinding layer to provide a smooth profile, prior to the placing of the liner.

The HDPE liner will be placed and the edges of adjacent sheets welded by a recognized/certified installer using double track fusion welds, and all welds will be air tested prior to the initial filling of the reservoir, to ensure the total integrity of the liner.

Quality Control records will be kept of all earth fill compaction and liner placement and welding.

To minimise the impact of the work on surrounding properties, adequate dust and silt erosion/run-off control will be required to be put in place through the Contract Conditions.

9. Conclusion

Synthetically lined gravel and earth fill reservoirs have been successfully constructed and operated in Marlborough, other parts of New Zealand and the world for many years.

They are recognized as safe structures, which also provide a high water quality at reasonable costs.

Although the proposed reservoir is in relative close vicinity to the active Wairau Fault line, it is deemed a low hazard structure as defined in New Zealand Society of Large Dam Guidelines, due to its design, and ability of the adjacent Wairau River accommodate hypothetical breach flows.

In our opinion, there are no technical reasons for Council not to grant resource consent for this proposed reservoir.

We trust this provides the information you require, but if there are any questions relating to this report, do not hesitate to contact the undersigned.

10. Applicability

This report has been prepared for the benefit of Constellation Brands NZ Ltd with respect to the particular brief given to us and it may not be relied upon by any other party, in other contexts or for any other purpose without our prior review and arrangement.

MARLBOROUGH MANAGEMENT SERVICES LTD

Report prepared by:



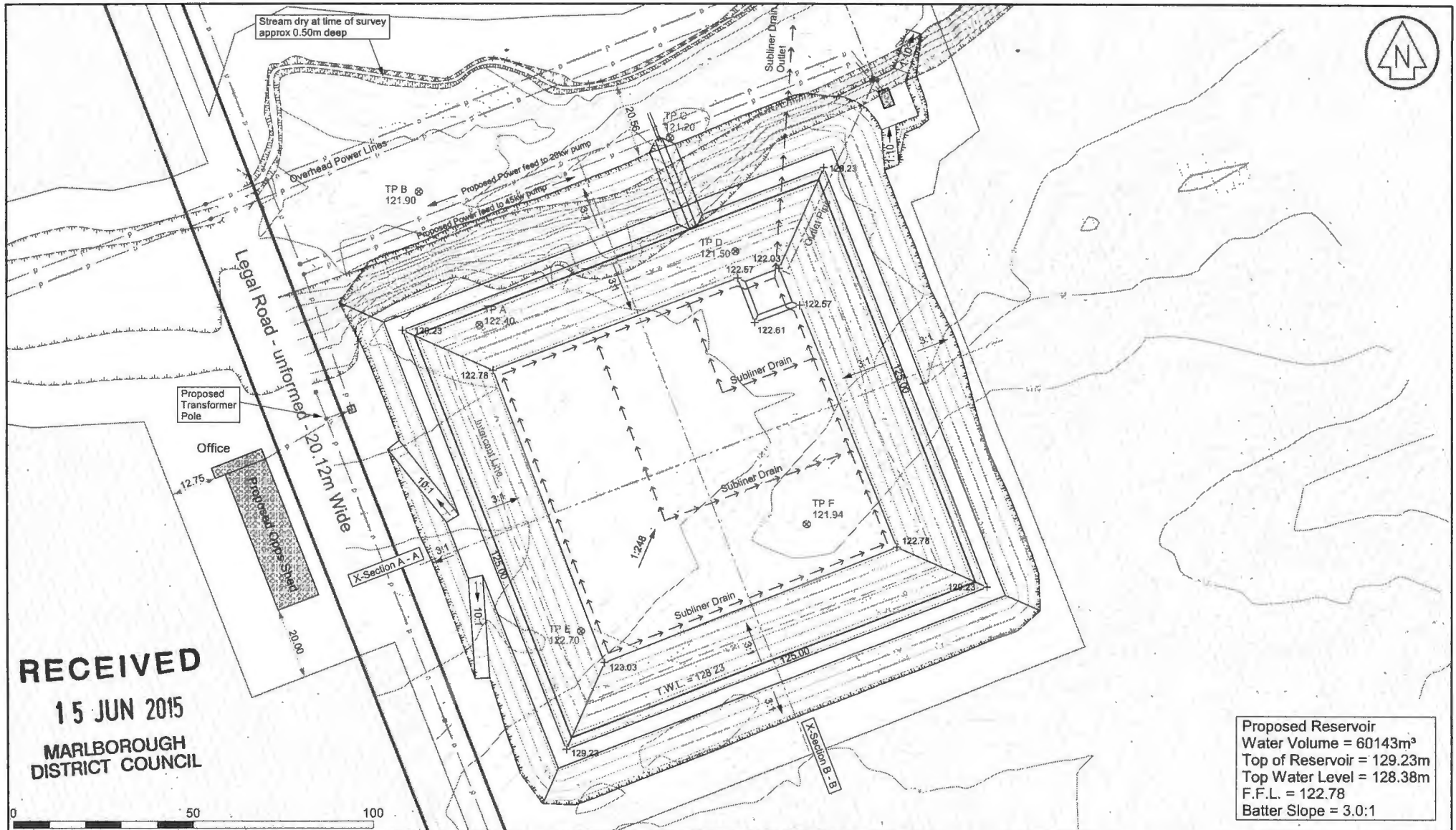
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Appendix A – Concept Reservoir Plan and Cross Sections

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Proposed Reservoir
 Water Volume = 60143m³
 Top of Reservoir = 129.23m
 Top Water Level = 128.38m
 F.F.L. = 122.78
 Batter Slope = 3.0:1

PREPARED BY:
GILBERT, HAYMES & ASSOCIATES LTD
 REGISTERED SURVEYORS
 P.O. BOX 380 - 14 QUEEN STREET - BLENHEIM
 PHONE (03)5787984 - FAX (03)5787709
 E-MAIL office@gilberthaymes.co.nz

MARLBOROUGH MANAGEMENT SERVICES
 65 Cob Cottage Road
 RD 4, Riverlands
 Blenheim, 7274
 Phone (03) 577 5954
 Fax (03) 578 5481
 Mobile (021) 221 0003
 E-mail tim@smitventures.co.nz



Constellation Brands - Erina Block
Proposed Reservoir

Note:
 Heights are in terms of Nelson Vertical Datum 1955
 Being BM (AD5F) = 135.453m

| | | |
|---|------|-----------------|
| SCALE 1:1000 | - A3 | DATE 28/05/2015 |
| DRAWN CW | | JOB REF 9455 |
| CAD FILE RESERVOIR - Proposed Reservoir | | |

Appendix B – Test Pit Logs

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**Constellation Brands NZ Ltd
 Erina Downs Reservoir**

Trial Pit Log No. A

Date Thursday, 30 April 2015
Equipment 20t Excavator

| Depth | Graphic Log | Description |
|-------|---------------|---|
| 0 | | |
| 0.1 | | Dark brown, silty topsoil with roots, dry |
| 0.2 | | |
| 0.3 | | |
| 0.4 | | Light brown gravelly silt (0-100mm) with roots, dry |
| 0.5 | | |
| 0.6 | | |
| 0.7 | | |
| 0.8 | | |
| 0.9 | | |
| 1 | | |
| 1.1 | | |
| 1.2 | | |
| 1.3 | | |
| 1.4 | | |
| 1.5 | | |
| 1.6 | | |
| 1.7 | | |
| 1.8 | | |
| 1.9 | | |
| 2 | | |
| 2.1 | | |
| 2.2 | | |
| 2.3 | | |
| 2.4 | | Grey-brown sandy gravel (0-200mm) with varying lenses of open finer gravels (0-100mm) with little fines, dry |
| 2.5 | | |
| 2.6 | | |
| 2.7 | | |
| 2.8 | | |
| 2.9 | | |
| 3 | | |
| 3.1 | | |
| 3.2 | | |
| 3.3 | | |
| 3.4 | | |
| 3.5 | | |
| 3.6 | | |
| 3.7 | | |
| 3.8 | | |
| 3.9 | | |
| 4 | | |
| 4.1 | | |
| 4.2 | | |
| 4.3 | | |
| 4.4 | | |
| 4.5 | | Grey-black mottled sandy gravel (0-200mm) with varying lenses of open finer gravels (0-100mm) with little fines, damp |
| 4.6 | | |
| 4.7 | | |
| 4.8 | | |
| 4.9 | | |
| 5 | Bottom of Pit | No free water found |

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**Constellation Brands NZ Ltd
 Erina Downs Reservoir**

Trial Pit Log No. B

Date Thursday, 30 April 2015
Equipment 20t Excavator

| Depth | Graphic Log | Description |
|-------|------------------------|--|
| 0 | | |
| 0.1 | | Dark brown, silty topsoil with roots, dry |
| 0.2 | | |
| 0.3 | | |
| 0.4 | | Light brown gravelly silt (0-100mm) with roots, dry |
| 0.5 | | |
| 0.6 | | |
| 0.7 | | |
| 0.8 | | |
| 0.9 | | |
| 1 | | |
| 1.1 | | |
| 1.2 | | Grey-brown sandy gravel (0-200mm) with varying lenses of open finer gravels (0-100mm) with little fines, dry |
| 1.3 | | |
| 1.4 | | |
| 1.5 | | |
| 1.6 | | |
| 1.7 | | |
| 1.8 | | |
| 1.9 | | |
| 2 | Water seeping into pit | |
| 2.1 | | |
| 2.2 | | |
| 2.3 | | |
| 2.4 | | |
| 2.5 | | |
| 2.6 | | |
| 2.7 | | Grey-black mottled sandy gravel (0-200mm) with varying lenses of open finer gravels (0-100mm) with little fines, wet |
| 2.8 | | |
| 2.9 | | |
| 3 | | |
| 3.1 | | |
| 3.2 | | |
| 3.3 | | |
| 3.4 | | |
| 3.5 | | |
| 3.6 | Bottom of Pit | |
| 3.7 | | |
| 3.8 | | |
| 3.9 | | |
| 4 | | |
| 4.1 | | |
| 4.2 | | |
| 4.3 | | |
| 4.4 | | |
| 4.5 | | |
| 4.6 | | |
| 4.7 | | |
| 4.8 | | |
| 4.9 | | |
| 5 | | |

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**Constellation Brands NZ Ltd
 Erina Downs Reservoir**

Trial Pit Log No. C

Date Thursday, 30 April 2015
 Equipment 20t Excavator

| Depth | Graphic Log | Description |
|-------|------------------------|---|
| 0 | | |
| 0.1 | | Dark brown, silty topsoil with roots, dry |
| 0.2 | | |
| 0.3 | | |
| 0.4 | | |
| 0.5 | | Light brown silt with roots, dry |
| 0.6 | | |
| 0.7 | | |
| 0.8 | | |
| 0.9 | | |
| 1 | | |
| 1.1 | | |
| 1.2 | | |
| 1.3 | | |
| 1.4 | | |
| 1.5 | | Grey-brown sandy gravel (0-200mm) with varying lenses of open finer gravels (0-100mm) with little fines, dry |
| 1.6 | | |
| 1.7 | | |
| 1.8 | | |
| 1.9 | | |
| 2 | | |
| 2.1 | | |
| 2.2 | | |
| 2.3 | | |
| 2.4 | | |
| 2.5 | Water seeping into pit | |
| 2.6 | | |
| 2.7 | | |
| 2.8 | | |
| 2.9 | | |
| 3 | | |
| 3.1 | | |
| 3.2 | | |
| 3.3 | | Grey-black mottled sandy gravel (0-200mm) with varying lenses of open finer gravels (0-100mm) with little fines, damp |
| 3.4 | | |
| 3.5 | | |
| 3.6 | | |
| 3.7 | | |
| 3.8 | | |
| 3.9 | | |
| 4 | | |
| 4.1 | | |
| 4.2 | | |
| 4.3 | Bottom of Pit | |
| 4.4 | | |
| 4.5 | | |
| 4.6 | | |
| 4.7 | | |
| 4.8 | | |
| 4.9 | | |
| 5 | | |

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**Constellation Brands NZ Ltd
 Erina Downs Reservoir**

Trial Pit Log No. D

Date Thursday, 30 April 2015
Equipment 20t Excavator

| Depth | Graphic Log | Description |
|-------|---------------|--|
| 0 | | |
| 0.1 | | Dark brown, silty topsoil with roots, dry |
| 0.2 | | |
| 0.3 | | |
| 0.4 | | Light brown gravelly silt (0-100mm) with roots, dry |
| 0.5 | | |
| 0.6 | | |
| 0.7 | | |
| 0.8 | | |
| 0.9 | | |
| 1 | | |
| 1.1 | | |
| 1.2 | | |
| 1.3 | | |
| 1.4 | | |
| 1.5 | | |
| 1.6 | | |
| 1.7 | | |
| 1.8 | | |
| 1.9 | | |
| 2 | | |
| 2.1 | | |
| 2.2 | | |
| 2.3 | | |
| 2.4 | | Grey-brown sandy gravel (0-200mm) with varying lenses of open finer gravels (0-100mm) with little fines, dry |
| 2.5 | | |
| 2.6 | | |
| 2.7 | | |
| 2.8 | | |
| 2.9 | | |
| 3 | | |
| 3.1 | | |
| 3.2 | | |
| 3.3 | | |
| 3.4 | | |
| 3.5 | | |
| 3.6 | | |
| 3.7 | | |
| 3.8 | | |
| 3.9 | | |
| 4 | | |
| 4.1 | | |
| 4.2 | | |
| 4.3 | | |
| 4.4 | Bottom of Pit | No free water found |
| 4.5 | | |
| 4.6 | | |
| 4.7 | | |
| 4.8 | | |
| 4.9 | | |
| 5 | | |

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**Constellation Brands NZ Ltd
 Erina Downs Reservoir**

Trial Pit Log No. E

Date Thursday, 30 April 2015

Equipment 20t Excavator

| Depth | Graphic Log | Description |
|-------|---------------|---|
| 0 | | |
| 0.1 | | Dark brown, silty topsoil with roots, dry |
| 0.2 | | |
| 0.3 | | Light brown gravelly silt (0-100mm) with roots, dry |
| 0.4 | | |
| 0.5 | | |
| 0.6 | | |
| 0.7 | | |
| 0.8 | | |
| 0.9 | | |
| 1 | | |
| 1.1 | | |
| 1.2 | | |
| 1.3 | | |
| 1.4 | | |
| 1.5 | | |
| 1.6 | | |
| 1.7 | | |
| 1.8 | | |
| 1.9 | | |
| 2 | | Grey-brown sandy gravel (0-200mm) with varying lenses of open finer gravels (0-100mm) with little fines, dry |
| 2.1 | | |
| 2.2 | | |
| 2.3 | | |
| 2.4 | | |
| 2.5 | | |
| 2.6 | | |
| 2.7 | | |
| 2.8 | | |
| 2.9 | | |
| 3 | | |
| 3.1 | | |
| 3.2 | | |
| 3.3 | | |
| 3.4 | | |
| 3.5 | | |
| 3.6 | | |
| 3.7 | | |
| 3.8 | | |
| 3.9 | | Grey-black mottled sandy gravel (0-200mm) with varying lenses of open finer gravels (0-100mm) with little fines, damp |
| 4 | | |
| 4.1 | | |
| 4.2 | | |
| 4.3 | | |
| 4.4 | Bottom of Pit | No free water found |
| 4.5 | | |
| 4.6 | | |
| 4.7 | | |
| 4.8 | | |
| 4.9 | | |
| 5 | | |

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**Constellation Brands NZ Ltd
 Erina Downs Reservoir**

Trial Pit Log No. F

Date Thursday, 30 April 2015
Equipment 20t Excavator

| Depth | Graphic Log | Description |
|-------|---------------|---|
| 0 | | |
| 0.1 | | Dark brown, silty topsoil with roots, dry |
| 0.2 | | |
| 0.3 | | Light brown gravelly silt (0-100mm) with roots, dry |
| 0.4 | | |
| 0.5 | | |
| 0.6 | | |
| 0.7 | | |
| 0.8 | | |
| 0.9 | | |
| 1 | | |
| 1.1 | | |
| 1.2 | | |
| 1.3 | | |
| 1.4 | | |
| 1.5 | | |
| 1.6 | | |
| 1.7 | | |
| 1.8 | | Grey-brown sandy gravel (0-200mm) with varying lenses of open finer gravels (0-100mm) with little fines, dry |
| 1.9 | | |
| 2 | | |
| 2.1 | | |
| 2.2 | | |
| 2.3 | | |
| 2.4 | | |
| 2.5 | | |
| 2.6 | | |
| 2.7 | | |
| 2.8 | | |
| 2.9 | | |
| 3 | | |
| 3.1 | | |
| 3.2 | | |
| 3.3 | | |
| 3.4 | | |
| 3.5 | | |
| 3.6 | | |
| 3.7 | | Grey-black mottled sandy gravel (0-200mm) with varying lenses of open finer gravels (0-100mm) with little fines, damp |
| 3.8 | | |
| 3.9 | | |
| 4 | | |
| 4.1 | | |
| 4.2 | | |
| 4.3 | | |
| 4.4 | Bottom of Pit | No free water found |
| 4.5 | | |
| 4.6 | | |
| 4.7 | | |
| 4.8 | | |
| 4.9 | | |
| 5 | | |

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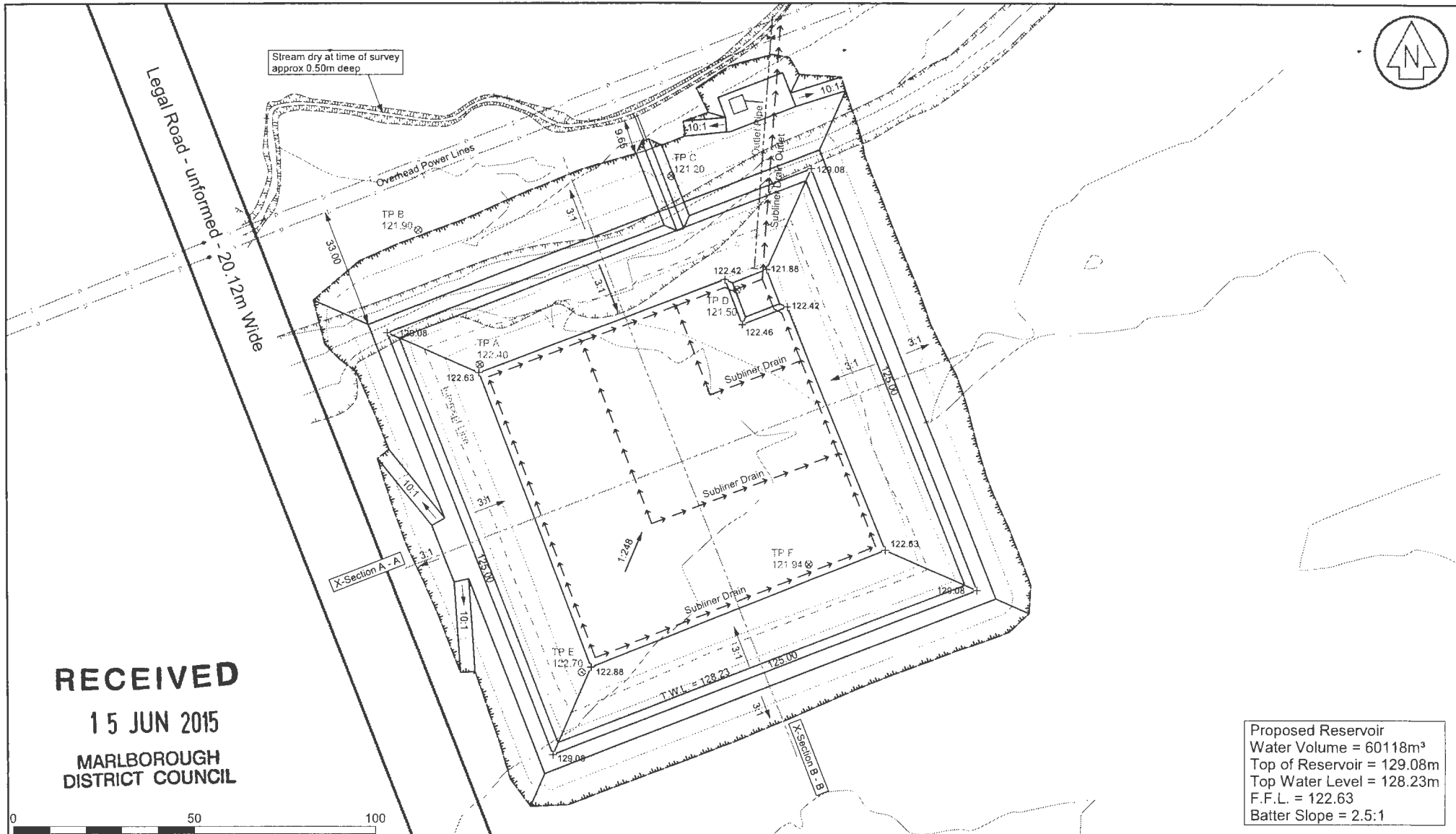
Appendix 4 – Plans

NOTE: PDF copies of plans can be supplied electronically on request

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Proposed Reservoir
 Water Volume = 60118m³
 Top of Reservoir = 129.08m
 Top Water Level = 128.23m
 F.F.L. = 122.63
 Batter Slope = 2.5:1

PREPARED BY:
 GILBERT, HAYMES & ASSOCIATES LTD
 REGISTERED SURVEYORS
 P.O. BOX 380 - 14 QUEEN STREET - BLENHEIM
 PHONE (03)5787984 - FAX (03)5787709
 E-MAIL office@gilberthaymes.co.nz

MARLBOROUGH MANAGEMENT SERVICES
 65 Cob Cottage Road
 RD 4, Riverlands
 Blenheim, 7274
 Phone (03) 577 5954
 Fax (03) 578 5481
 Mobile (021) 221 0003
 E-mail tim@smitventures.co.nz



Constellation Brands - Erina Block
Proposed Reservoir

| | | |
|---|------|-----------------|
| SCALE 1:1000 | - A3 | DATE 08/05/2015 |
| DRAWN CW | | JOB REF 9455 |
| CAD FILE RESERVOIR - Proposed Reservoir | | |

Appendix 5 - Water Permit Application Form

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DISTRICT COUNCIL

Applicants Name Constellation Brands NZ Ltd



ISO 9001:20002
Document Number: RAF0007-CI987

**INFORMATION TO SUPPORT AN APPLICATION
for Water Permits (mandatory information)**

This additional application form is required to be provided to supplement the Application For A Resource Consent. It is recommended you read the Council's brochures *Guidelines for Applying for a Resource Consent* and *Guidelines for Applying for a Water Permit*.

This form does not include any information necessary to support a Land Use Consent application that may also be required in association with your water permit – e.g. construction of a bore, intake structure, dam etc. Further information on these activities is available in the Council's brochure *Guidelines for Applying for a Land Use Consent*.

Please complete all sections that apply.

GENERAL:

1. Type of permit required:

Take surface water

Dam water

Take underground water

Divert water

2. Do you currently hold a water permit that is due to expire? Yes / No

If yes, please state the water permit number

3. Purpose for which water is required?
(Industrial, crop irrigation, etc)

To fill a reservoir

4. Source of water Wairau River
(name of river, stream, aquifer, etc)

5. Maximum quantity of take 101.04litres per second
8,730cubic metres per day
60,000cubic metres per week

GROUNDWATER:

1. Well number (if existing well)

2. Depth from ground level to bottom of wellmetres

3. Diameter of wellmillimetres

4. Has a pump test or well interference test been carried out on the well? Yes / No

If yes, please attach results.

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SURFACE WATER:

1. Abstraction method infiltration gallery
(e.g. intake gallery, suction hose, diversion channel, etc.)
2. Number of pumps to be used?
3. Rate of flow for pumplitres per second.
4. Delivery pipe diametermillimetres

DAMMING OR DIVERTING WATER:

1. Please advise reason and purpose
Damming in a reservoir for back up irrigation supply for grapes:
.....
2. Is the dam or diversion permanent / temporary? (circle one)
3. If temporary, give duration details

CONSUMPTION SCHEDULE

| | CROP A | | | | CROP B | | | | CROP C | | | | TOTALS | | | |
|--|--------|-----|-----|-----|--------|-----|-----|-----|--------|-----|-----|-----|--------|-----|-----|-----|
| CROP TYPE <i>e.g. corn, olives, etc</i> | | | | | | | | | | | | | | | | |
| AREA <i>Number of hectares</i> | | | | | | | | | | | | | | | | |
| APPLICATION RATE <i>(m³ / ha / day)</i> | | | | | | | | | | | | | | | | |
| QUANTITY <i>Cubic metres per day</i> | | | | | | | | | | | | | | | | |
| IRRIGATION PERIOD <i>Circle months which apply</i> | Jan | Feb | Mar | Apr | Jan | Feb | Mar | Apr | Jan | Feb | Mar | Apr | Jan | Feb | Mar | Apr |
| | May | Jun | Jul | Aug | May | Jun | Jul | Aug | May | Jun | Jul | Aug | May | Jun | Jul | Aug |
| | Sep | Oct | Nov | Dec | Sep | Oct | Nov | Dec | Sep | Oct | Nov | Dec | Sep | Oct | Nov | Dec |
| METHOD <i>Trickle, spray, etc</i> | | | | | | | | | | | | | | | | |

Conversion formulae – 1,000 litres = 1 cubic metre (m³) = 220 gallons 1 acre = 0.4047 hectare

Reset form

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Appendix 6 – Analysis of Requirements of Schedule 4 of the Act

| Clause | Matter | Not relevant or applicable | Addressed in application |
|---------|--|----------------------------|--------------------------|
| 2(1)(a) | description of activity | | ✓ |
| (b) | site description | | ✓ |
| (c) | Name, address of owner or occupiers | | ✓ |
| (d) | any other activities that are part of the proposal | | ✓ |
| (e) | other resource consents | | ✓ |
| (f) | an assessment of the activity against the matters set out in Part 2 | | |
| | Section 5 – purpose of the Act | | ✓ |
| | Section 6 – matters of national importance | | |
| | (a) natural character of the coastal environment, wetlands, lakes, rivers | ✓ | |
| | (b) outstanding natural features and landscapes | ✓ | |
| | (c) significant indigenous vegetation and habitats | ✓ | |
| | (d) public access to and along the coastal marine area, lakes, and rivers | ✓ | |
| | (e) relationship of Maori with ancestral lands, water, waahi tapu, and other taonga | ✓ | |
| | (f) historic heritage | ✓ | |
| | (g) customary rights | ✓ | |
| | <i>Section 7 – Other Matters</i> | | |
| | (a)kaitiakitanga | ✓ | |
| | (aa) ethic of stewardship | ✓ | |
| | (b) efficient use of resources | | ✓ |
| | (ba) efficiency of energy use | ✓ | |
| | (c) amenity values | ✓ | |
| | (d) intrinsic values of ecosystems | ✓ | |
| | (f) quality of the environment | ✓ | |
| | (g) any finite characteristics of natural and physical resources | ✓ | |
| | (h) protection of the habitat of trout and salmon | ✓ | |
| | (i) effects of climate change | ✓ | |
| | (j) benefits from the use and development of renewable energy | ✓ | |
| | <i>Section 8</i> | | |
| | principles of Treaty of Waitangi | ✓ | |
| (g) | assessment of the activity against any relevant provisions of documents in s104(1)(b): | | |
| | (i) national environmental standard | ✓ | |
| | (ii) other regulations: | ✓ | |
| | (iii) national policy statement | | ✓ |
| | (iv) New Zealand coastal policy statement | ✓ | |
| | (v) regional policy statement or proposed regional policy statement | | ✓ |

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| | | | |
|--------|---|---|---|
| | (vi) plan or proposed plan | | ✓ |
| (3) | Additional information required in some applications | | |
| | (a) demonstration of compliance of permitted activity parts of proposal | ✓ | |
| | (b) assessment of the value of the investment of the existing consent holder | ✓ | |
| | (b) assessment against Marine and Coastal Area (Takutai Moana) Act 2011 | ✓ | |
| (6) | Information required in assessment of environmental effects | | |
| | (a) possible alternative locations or methods if effects significant | ✓ | |
| | (b) actual or potential effects | | ✓ |
| | (c) if hazardous substances and installations, an assessment of risks | | |
| | (d) discharge of any contaminants, a description of— | | |
| | (i) nature of the discharge and the sensitivity of the receiving environment | ✓ | |
| | (ii) possible alternative methods of discharge | ✓ | |
| | (e) mitigation measures | | ✓ |
| | (f) persons affected, consultation undertaken | | ✓ |
| | (g) monitoring required if scale and significance of effects warrants, how & by whom | | ✓ |
| | (h) alternatives if more than minor effects on customary right | ✓ | |
| (7)(1) | Matters that must be addressed by assessment of environmental effects | | |
| | (a) effects on neighbourhood, community | | ✓ |
| | (b) effects on the locality, landscape, visual | | ✓ |
| | (c) effects on ecosystems | | ✓ |
| | (d) effects on aesthetic, recreational, scientific, historical, spiritual, or cultural values | | ✓ |
| | (e) discharge of contaminants | | ✓ |
| | (f) risk through natural hazards, hazardous substances, hazardous installations | | ✓ |

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To: Marlborough District Council
PO Box 443
Blenheim 7240

SUBMISSION ON APPLICATION FOR A RESOURCE CONSENT

1. Submitter Details

Name of Submitter(s) in full _____

Address for Service *(include post code)* _____

Email _____

Telephone *(day)* _____ Mobile _____ Facsimile _____

Contact Person *(name and designation, if applicable)* _____

2. Application Details

Application Number _____ U _____

Name of Applicant *(state full name)* _____

Application Site Address _____

Description of Proposal _____

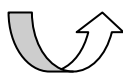
3. Submission Details *(please tick one)*

I/we support all or part of the application

I/we oppose all or part of the application

I/we are neutral to all or part of the application

The specific parts of the application that my/our submission relates to are *(give details, using additional pages if required)*



The reasons for my/our submission are *(use additional pages if required)*

The decision I/we would like the Council to make is *(give details including, if relevant, the parts of the application you wish to have amended and the general nature of any conditions sought. Use additional pages if required)*

4. Submission at the Hearing

I/we wish to speak in support of my/our submission

I/we do not wish to speak in support of my/our submission

OPTIONAL: Pursuant to section 100A of the Resource Management Act 1991 I/we request that the Council delegate its functions, powers, and duties required to hear and decide the application to one or more hearings commissioners who are not members of the Council. *(Please note that if you make such a request you may be liable to meet or contribute to the costs of commissioner(s). Requests can also be made separately in writing no later than 5 working days after the close of submissions.)*

5. Signature

Signature

Date

Signature

Date

6. Important Information

- Council must receive this completed submission before the closing date and time for submission for this application. The completed submission may be emailed to mdc@marlborough.govt.nz
- You must also send a copy of this submission to the applicant as soon as reasonably practicable, at the applicant's address for service.
- Only those submitters who indicate that they wish to speak at the hearing will be sent a copy of the hearing report.

7. Privacy Information

The information you have provided on this form is required so that your submission can be processed under the Resource Management Act 1991. The information will be stored on a public file held by Council. The details may also be available to the public on Council's website. If you wish to request access to, or correction of, your details, please contact Council.