



Application for New Resource Consent

For: Haas Orchard Limited

To: Take and Use Groundwater

Prepared by: Lilian Harley

Date: 22 July 2020

APPLICANT DETAILS

Applicant:

Haas Orchard Limited

Contact: Andrew Ross
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Address: 32 The Glebe, Whakatane, 3120

Activity:

To take and use water from a bore for irrigation and frost protection of kiwifruit.

Location of Activity:

Physical Address: 85 Western Drain Road, Edgecumbe
Legal Description: Lot 3 DPS 86818, Lot 1 DP 492574 (Whakatane District).
Grid reference: NZTM 2000: 1940092 mE 5790343 mN

Address for service:

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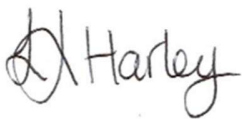
Application fee:

Paid under reference 'Haas'

**Additional fees
or refund:**

Direct to applicant

The consultant is the main point of contact for this application and the applicant for invoicing and compliance matters.



Signed:

on behalf of the applicant – 22 July 2020

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1. This report has been prepared for the Bay of Plenty Regional Council (BOPRC) as the regulatory authority for the proposed activity, in accordance with Section 88 of the Resource Management Act 1991 (the RMA).
2. The report has been prepared by Lilian Harley of Allegrow Ltd on behalf of the applicant, Haas Orchard Limited.

INTRODUCTION

3. Haas Orchard Limited (the applicant), is applying to for a new resource consent to take water from bore BN-10083 for irrigation and frost protection of a kiwifruit orchard at 85 Western Drain Road, Edgumbe.
4. A maximum weekly volume of up to 2,205 cubic metres per week to be taken at a maximum rate of 4L/s is requested for the irrigation of 6.3 ha of kiwifruit. An annual volume of 31,199 cubic metres is requested for irrigation purposes.
5. The applicant is proposing to take and use up to 945 cubic metres per day of water to be taken at a maximum rate of 4L/s, for frost protection of 6.3 ha of kiwifruit. For a maximum of 15 frost events per year, an annual volume of 14,175 cubic metres is requested.
6. The applicant requests a total annual volume of up to 45,374 cubic metres for frost protection and irrigation of kiwifruit.
7. A consent term of 15 years is requested.
8. A map of kiwifruit orchards and the location of the bore is shown in Figure 1.



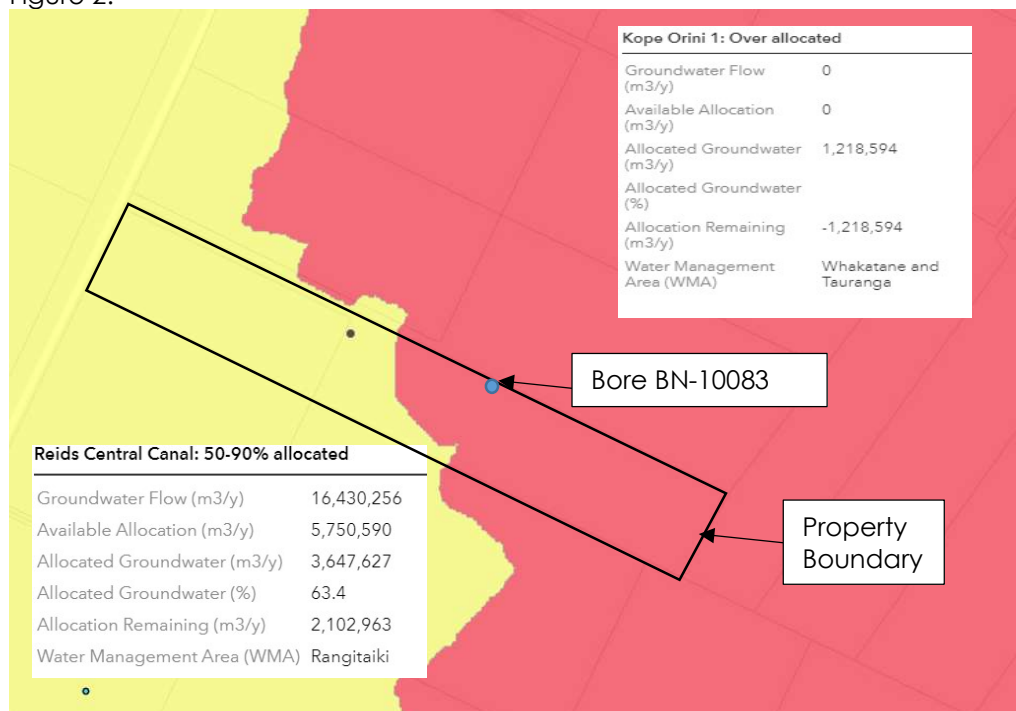
Figure 1: Location of the Activity

STATUS OF THE APPLICATION

9. Section 14 of the Resource Management Act stipulates that no person may take, use, dam or divert any water, unless the activity is expressly allowed for by resource consent or a rule in a regional plan, or it falls within some particular categories set out in Section 14.
10. Rule 38 of the Regional Land and Water Plan for Bay of Plenty permits the abstraction of groundwater provided the temperature of the water does not exceed 30 degrees Celsius, or the daily volume does not exceed 35 cubic metres per day. The temperature can be complied with, but the daily volume requested exceeds 35 cubic metres.
11. Rule 43 provides for groundwater abstraction that does not meet the permitted activity or controlled activity rules as a **discretionary** activity.
12. When an activity falls under more than one rule the most restrictive activity status applies, therefore overall the proposal is considered a **discretionary activity**.
13. No other consents are required in order for the applicant to undertake the activity sought.

DESCRIPTION OF THE ENVIRONMENT

14. The water take is located at 85 Western Drain Road, Edgecumbe. The bore is located at approximately NZTM coordinates 1940092 mE 5790343 mN.
15. The property is located 4km to the east of Edgecumbe and 6.8 km from the coast on the Rangitaiki Plains. The property has existing kiwifruit orchards, comprising of green and gold kiwifruit. The orchard is to be converted to all gold kiwifruit and some additional areas between blocks are to be added. The property is surrounded by lifestyle, farms and horticultural blocks.
16. There is very little surface water in the vicinity and no major surface water bodies within 1 km. The area is low lying and poorly drained and there are a network of manmade farm drains on the flats, the water quality in these drains is generally considered to be poor and the main function is to provide drainage for farmland and orchards. The nearest significant water body is the Rangitaiki River, located approximately 3km from the bore.
17. Water is taken from Bore BN-10083, the bore is 100mm in diameter, 76m deep and is screened in a confined sand and gravel aquifer from 73m below ground level to the depth of the bore at 76m below ground level. The static water level in the bore is 0.15m below ground level.
18. The bore is located in the Whakatane and Tauranga Water Management Area and the Kope Orini 1 groundwater catchment. Just over 100m away is the boundary with the Rangitaiki Management Area and the Reids Central Canal groundwater catchment. Figure 2 shows the location of the bore in relation to the boundaries. The Bay of Plenty Regional Council Indicative Groundwater Availability and Consented Allocation Online Tool was used to determine the allocation details for the catchments. The allocation details are also shown in Figure 2.



19. There are 16 bores within 1km of bore BN-10083. Six of the bores within 1km have a resource consent to take water, the remainder of the bores are either used to take water as a permitted activity, are not used or do not exist.
20. In regard to archaeological sites, protected natural areas, biodiversity sites and significant natural areas, there are none located within the property boundary.
21. A map of the soil types is shown in Figure 2. The soil types for the orchard are Awakeri sand (Aw) and Paroa soils on peat (Prp).

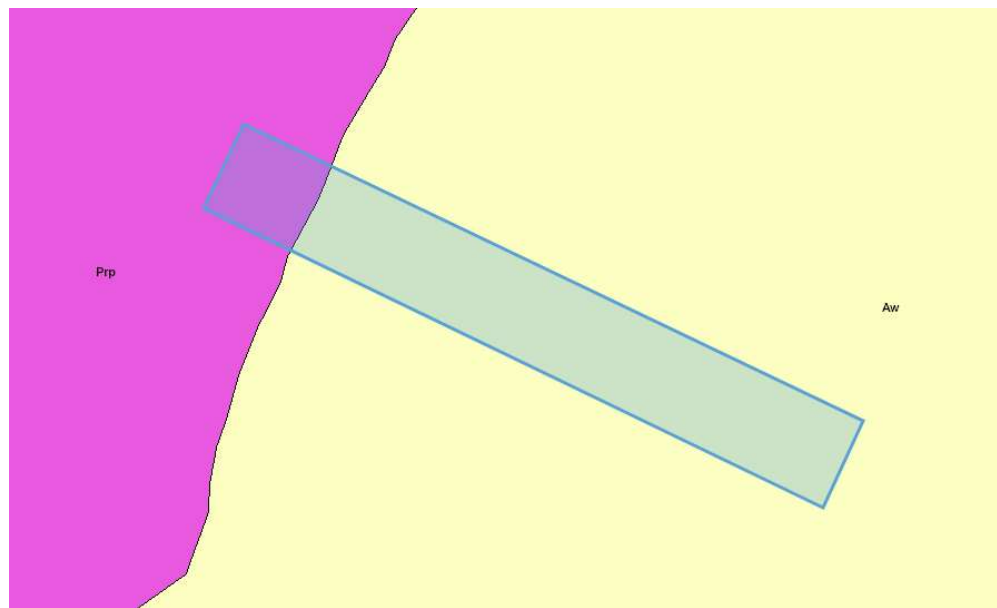


Figure 2: Soil Map

CONSULTATION

22. Consultation has been carried out with Tangata Whenua as detailed in the cultural effects assessment.
23. No other consultation has been carried out as no parties are considered adversely affected as a result of this application.

ASSESSMENT OF EFFECTS

Positive Effects

24. The requested take is for irrigation and frost protection of a kiwifruit orchard. The irrigation and frost protection applied for under this consent enables the kiwifruit orchard to be more productive. This and other kiwifruit orchards in the region provide employment and economic growth, this is considered a positive effect.

Cultural Effects

25. Māori have a close relationship with water in all its forms, both spiritually and physically. Water is a taonga of huge importance to Iwi and enhancing the health and wellbeing of our waterways is a priority for many Iwi. The Resource Management Act, National Policy Statement for Freshwater and Bay of Plenty Natural Resources Plan include kaitiakitanga policies and as such the cultural effects of this application have been considered.
26. An assessment of the consistency of this proposal with the kaitiakitanga policies in the Natural Resources Plan is provided below. The policies direct that tangata whenua are to be consulted regarding resource management issues and cultural effects of activities.

Table 2: Kaitiakitanga Policies

Policy	Policy detail	Comment
KT P5	To ensure that resource management issues of concern to tangata whenua are taken into account and addressed, where these concerns are relevant and within the functions of the Regional Council.	Consultation has been undertaken with the Iwi groups identified by BOPRC as having an interest in the area.
KT P11	To recognise and provide for the mauri of water, land and geothermal resources when assessing resource consent applications.	Iwi resource planning documents have been taken into account.
KT P14	To consult tangata whenua on water, land and geothermal resource management issues according to the requirements of the Act, tikanga Māori methods of consultation, and in a manner consistent with case law.	An assessment of effects has been carried out and any potential adverse effects on water, land and geothermal resources or sites of spiritual, cultural or

Policy	Policy detail	Comment
KT P15	To consult all appropriate tangata whenua holding mana whenua in circumstances where rohe (tribal boundaries), or areas of ancestral or historic interest overlap.	historical significance to tangata whenua are considered to be avoided, remedied or mitigated. There are no registered archaeological sites on the property.
KT P17	To: (a) Take into account iwi resource management planning documents, when preparing or changing a regional plan, where such documents exist. (b) Have regard to iwi resource management planning documents when considering resource consent applications, where such documents exist.	
KT P18	To avoid, remedy or mitigate adverse effects on water, land and geothermal resources or sites of spiritual, cultural or historical significance to tangata whenua, where these resources and sites have been identified by tangata whenua.	
KT P19	To encourage tangata whenua to recommend appropriate measures to avoid, remedy or mitigate the adverse environmental effects of the use and development of water, land and geothermal resources.	
KT P20	To assess effects of proposed development activities on the cultural and historic values and sites of water, land and geothermal resources in consultation with tangata whenua.	

27. Policy IW 2B of the Regional Policy Statement recognises that only tangata whenua can identify and evidentially substantiate their relationship and that of their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga. Therefore, to understand that relationship the applicant has undertaken consultation with iwi and hapu groups identified by BOPRC as having an interest in the area.

Table 3: Consultation with Tangata Whenua

Iwi/Hapu and Contact	Response
Ngati Awa (Te Runanga o Ngati Awa) Jaymie-Kate Wardlaw Kaitiaki@ngatiawa.iwi.nz	Response received 20 July 2020

28. The Bay of Plenty Regional Council has identified Ngati Awa as being the only iwi group with a potential interest in this application.

Ngati Awa

29. Ngati Awa has an iwi management plan, TE MAHERE WHAKARITE MATATIKI TAIAO Ō NGĀTI AWA. Ngati Awa's guiding principles for freshwater are outlined in the plan as follows:

Freshwater management is no longer just about the allocation and use of water. Te Mana o te Wai is all encompassing and ensures that the first right to the water goes to the water. It is about restoring balance and ensuring reciprocity.

It means considering the health of the source waterbody in the first instance, and all that it sustains, before considering how much is available for allocation and use. This also means looking at water quantity and quality as a whole (i.e. one affects the other and vice versa).

Te Mana o Te Wai requires recognition of the values associated with freshwater, which includes, but is not limited to cultural, ecological, social, landscape, recreational and economic values. All of these values are applicable to Ngāti Awa.

30. In October 2012, the tribes of Mataatua waka (through Te Hono o Mataatua) approved and agreed to the Mataatua Declaration of Water (Declaration). It relates to freshwater and geothermal management and affirms our desire for full, exclusive and undisturbed possession of ancestral waters. The Declaration recognises, amongst others, that:
- Water is essential in sustaining the life principle of all living forms and maintaining the environment in which we live.
 - It is the sacred duty of present generations to ensure that water quality and quantity is available to our future generations.
 - Indigenous people have rights based on the Treaty of Waitangi and aboriginal title.
 - We recognise the need to share and manage our water for the long term benefit of all peoples.
31. TE MAHERE WHAKARITE MATATIKI TAIAO Ō NGĀTI AWA includes the following policies for freshwater relevant to this application. This application is consistent with the policies in the plan as outlined below.

Table 4: Ngati Awa Objectives and Policies

Reference	Objective/Policy	Comment
Objective 2	Freshwater management, planning and decisions must a recognise Ngāti Awa values, interests and Mātauranga. b recognise the 2012 Mataatua Declaration of Water. c value our intergenerational	Ngāti Awa values, interests and Mātauranga have been taken into account in this application.

Reference	Objective/Policy	Comment
	knowledge and role as a Treaty partner. d afford greater priority to the natural limits of our rivers, streams and groundwater aquifers.	
Objective 3	An integrated and holistic approach is taken to freshwater management, planning and decisions, particularly in relation to the linkages between: a freshwater quantity and quality. b land use, freshwater quantity and freshwater quality. c freshwater, stormwater and wastewater.	An integrated approach has been taken into account in this application, the effects of the activity have been assessed and are considered to be less than minor.
Objective 4	No further degradation of water quality within our rohe.	The effects on water quality have been assessed and are considered to be less than minor.
Objective 6	Encourage collective responsibility for the efficient and responsible use of water across all sectors within our rohe. This includes, but is not limited to: a Large volumes of water taken and used for municipal, agricultural, horticultural or industrial purposes. b Large volumes of water used for hydroelectric power generation purposes.	The volume of water requested has been assessed and is considered to be reasonable and efficient.
Policy 6.1.2	Ngāti Awa objects to the: a allocation of water for bottling and export. b disposal of contaminants, particularly wastewater and stormwater, directly into natural waterways. c mixing of water from different sources.	This application does not include any of these activities.
Policy 6.1.3	Ngāti Awa seeks restrictions on water permit transfers where the transfer may negatively impact Ngāti Awa lands.	This application is not for a transfer.

Reference	Objective/Policy	Comment
Policy 6.1.4	TRONA consider themselves an affected party under Section 95E of the RMA for all resource consent applications: a within, adjacent to, or impacting directly our statutory acknowledgement areas. b to take or transfer surface water within our rohe. c to take or transfer groundwater within our rohe. d to discharge contaminants to water or to land, in circumstances where it may enter water.	Ngati Awa has been consulted regarding this application.

32. Section 11.6 of TE MAHERE WHAKARITE MATATIKI TAIAO Ō NGĀTI AWA outlines the engagement protocols for resource consent applications. Engagement with Ngati Awa is required for water take consent applications. The information requirements are outlined and this information has been provided to Ngati Awa.

33. An email with the application and assessment of effects was sent to TRONA on 10 June 2020. A scope for services has been provided and signed by the applicant, and a final response was received on 20 July 2020. TRONA opposes any water resource consent application, until such time tangata whenua values and Te Mana o Te Wai have been implemented appropriately. Ngati Awa's responses to groundwater takes for irrigation and frost protection include the following conditions, if the consent is granted:

1. The consent is granted for a term no longer than 5 years when the National Policy Statement for Freshwater is due to be reviewed.
2. The applicant shall undertake an assessment of the efficiency and appropriateness of the take if the application were to be granted for a term longer than 5 years at the midway point of the consent term. The outcomes of the assessment may trigger the need for a review of the entire activity.
3. The applicant should seek feedback of the assessment from TRONA to consider whether changes are required or should trigger a review of the consent.
4. The applicant should carefully monitor when water is being taken to avoid adverse effects on the resource.
5. Soil moisture probes should be considered to monitor the soil moisture and determine when irrigation is required;
6. Telemetry and other measurement tools deemed necessary are installed to ensure efficiency.
7. Regional Council review each application to ensure water allocation limits are reasonable based on the applicant's rate of take

34. Ngati Awa has requested that the consent term is no longer than 5 years when the NPS for freshwater is due to be reviewed. No cultural effects have been

identified which warrant a reduction in consent term. The term requested is inline with the term for other similar consents and the consent will include standard review conditions which will provide for a review following any changes to policy. Therefore it is not considered necessary to reduce the consent term to 5 years.

35. The standard BOPRC consent conditions include a condition which provides for a review of the resource consent to ensure the use of water authorised by the consent remains efficient.
36. Installation of a flow meter and telemetry will be required by a consent condition, this will monitor when water is taken from the river and ensure that the volume of water taken does not exceed the volume considered to be efficient use.
37. The requirement for soil moisture probes is not a standard consent condition used by the Bay of Plenty Regional Council. The effectiveness of soil moisture probes is dependant on the soil type and the placement of the probes among other factors. Soil moisture probes alone can not provide a measure of water efficiency, however they are a tool which can be used to determine when irrigation should occur. The volume of water has been assessed as reasonable and efficient and therefore soil probes while useful should not be included as a consent condition.
38. An assessment of the volumes requested has been provided and the volumes are considered to be reasonable and efficient. As part of this application BOPRC will review this assessment.
39. Consultation has been undertaken with Ngati Awa and a written response to the application has been received. The volume of water requested is considered reasonable and efficient, an assessment of effects has been provided and the effects are considered to be less than minor. A flow meter and telemetry have also been installed on the bore. Taking these factors into account and that BOPRC will impose a review condition on the consent, any potential adverse effects on the cultural values of Ngati Awa are considered to be avoided, remedied or mitigated.
- 40.

Efficient Water Use

41. Policy 73 of the Regional Natural Resources Plan requires the efficient use of water where the efficiency is assessed as defined by Method 168. The SPASMO model used by the Bay of Plenty Regional Council is considered to meet the requirements of Method 168 and has been used for this assessment.

KIWIFRUIT IRRIGATION

42. The applicant proposes to take groundwater from a bore up to a maximum rate of 4 L/s to irrigate the 6.3ha kiwifruit orchard.
43. The applicant requests a weekly volume of 2,205 cubic metres and an annual volume of 31,199 cubic metres for irrigation. This is consistent with the volume modelled by SPASMO as an efficient and reasonable volume for this crop, taking into account soil type and climate.
44. The soil type for the orchard is Awakeri sand (Aw) and Paroa soils on peat (Prp).

45. The SPASMO model output is summarised in Table 4 and the model outputs are shown below.

Table 4: SPASMO Output

Crop	Soil Type	Area (ha)	Weekly Volume (m ³)	Annual Volume (m ³)
Gold Kiwifruit	Prp	0.6	2,738	31,199
Gold Kiwifruit	Aw	5.70		
Total Irrigation Requested Volume		6.3	2,205	31,199

KIWIFRUIT FROST PROTECTION

46. There is currently no method for accurately calculating annual allocation for frost protection, however, climatic evidence suggests that a water allocation to protect against 15 frost events per year is adequate in the Bay of Plenty.
47. The applicant proposes to take water for purposes of frost protection or 6.3ha of kiwifruit orchard.
48. The applicant seeks to take and use up to 945 cubic metres per day for up to 15 days per year of frost protection. An annual volume for frost protection of 14,175 cubic metres is requested.
49. The applicant has used temperature data obtained from the BOPRC monitoring site at Edgumbe to estimate the number of frost protection days required. The number of potential frost events in September and October each year are shown in Table 5. Some years are missing climate data and have been left out of the table.

Table 5: Potential Frost Events (PFE)

Year	2008	2009	2010	2011	2012	2013	2014	2015	2017	2019
PFE	2	12	7	10	5	3	2	3	2	1

50. Water use for frost protection on neighbouring orchards is not a good indication of frost protection requirements as there are numerous factors influencing frost protection requirements, including the availability of water.
51. The applicant's frost protection system is designed to be applied at 3 mm/hour by a competent irrigation designer. Frost protection in the Bay of Plenty typically requires 2.5-3mm/hour of water, this is an industry standard and provides the best level of protection against frost damage of the crop. The applicant's proposed daily take for frost protection equates to 1.5 mm/hr over a ten-hour application period which is within the accepted limits and is therefore considered to be an efficient use of water.
52. A significant amount of investment has occurred to establish the kiwifruit crop and to install the infrastructure and this investment must be protected. If the crop could not be protected during a frost event, this would result in a significant losses for the coming crop and for seasons to come.
53. The proposed take for frost protection is considered to be efficient and has been reflected in the draft conditions.

TOTAL ANNUAL VOLUME

54. The applicant proposes to take a total annual volume of 45,374 cubic metres; this is made up of 31,199 cubic metres for irrigation and 14,175 cubic metres for frost protection. The volumes sought are considered to be reasonable and given this, effects of an inefficient water use are less than minor.

Allocation Status

55. Maximum allocation volumes (and aquifer restriction levels) are a means of managing the cumulative effects of groundwater takes on long-term storage of an aquifer and on outflows to surface water bodies, while avoiding contamination of groundwater and surface water resources, and permanent aquifer compression.
56. Policy 70 of the Regional Natural Resources Plan directs council to allocate groundwater according to Policy 73 (efficient use) at a sustainable yield which avoids permanently or unsustainably lowering water levels, or degrading water quality in aquifer systems. Method 183 requires council to determine sustainable yields for groundwater systems, council has addressed this by using the online groundwater allocation tool which has been used to assess the allocation for this application.
57. Policy 72 directs council to allocate water on a first in first served basis, subject to efficient use. Method 166 directs council to give preference to existing holders of consents subject to efficient water use and having mechanisms in place to use the water.
58. An assessment has been undertaken and the volumes of water requested are considered to be efficient.
59. The bore is located in the Whakatane and Tauranga Water Management Area and the Kope Orini 1 groundwater catchment. The Bay of Plenty Regional Council Indicative Groundwater Availability and Consented Allocation Online

Tool was used to determine the allocation details for the catchment. The tool shows the catchment has having no allocation, catchments such as these are considered recharge catchments where the modelled outputs for the catchment are higher than the inputs and therefore it is considered that there is no allocation for the catchment. There is a total of 1,218,594 cubic metres already allocated to consents in the catchment and no allocation and therefore the catchment is considered to be overallocated.

60. The groundwater allocation zones are not separate aquifers or aquifer boundaries, there are no physical boundaries between the catchments. They are simply management areas. Within these zones below the ground surface there are a series of different geological layers that form different aquifers. Groundwater can move between groundwater allocation zones. These zones are based on surface water catchment boundaries and groundwater flow direction.
61. The bore is located approximately 100m from the boundary with the Rangitaiki Water Management Area and the Reids Central Canal groundwater catchment. The catchment is 63.4% allocated and there is 2,102,963 cubic metres of allocation remaining.
62. While the bore is located in an overallocated catchment, the bore is approximately 100m from the boundary of a catchment with allocation available, in the direction of groundwater flow (downstream). There is no physical barrier between the catchment and realistically it is impossible to categorically allocate the water from taken from the to either catchment, as it likely comes from both. The proposed take is unlikely to unsustainably lower the aquifer levels or to degrade the water quality in the aquifer system.
63. The applicant has considered drilling a new bore, 100m from the existing bore, so that it is located in the Reids Central Canal groundwater catchment, however this is a very expensive option to essentially take water from the same groundwater aquifer with the same overall effects on the environment.
64. To mitigate effects on the allocation of groundwater and for groundwater accounting purposes, given the proximity of the bore to the boundary, the water taken under this consent could be recorded as coming from the Reids Central Canal groundwater catchment.
65. Therefore, the effect of the proposed take on the allocation in the groundwater catchment is considered to less than minor.

Effects on other groundwater users

66. The abstraction is not likely to affect anyone either in terms of sustaining resource potential or constraining the abilities of other consumptive water users to exercise their consents or their right to take water.
67. Policy 72 of the Regional Natural Resources Plan directs council to ensure that any allocation of water does not derogate from any existing consents.
68. There are 16 bores within a 1 kilometre radius of the bore. Table 6 provides the details of the neighbouring bores.

Table 6: Neighbouring Bores

Bore No.	Distance	Bore Depth (m)	Casing Depth (m)	Static Water Level (m)
BN-10083	0	76	73	0.5
BN-10993	397	97	62	1
BN-4543	599	3		2
BN-381	703	15.2	12.2	0
BN-3687	717	111	106.25	
BN-3686	719	111	104	
BN-353	745	11.3	8	3
BN-3365	796	50	48.5	-0.3
BN-375	805	11.6	8.54	0
BN-378	818	12.2	8.85	0
BN18-0123	835	137.3	121.8	0.95
BN-2514	911	73.3	58.2	-1.03
BN-2100	919			0
BN-4734	922			
BN-466	955	16.8	12.81	2.5
BN-4510	1000			

69. A pump test was carried out by Steve Everitt, Waterline Engineering Consultants to support this resource consent application. The report describes the aquifer the bore is taking water from as a confined sand and gravel aquifer with a transmissivity of 475m²/day and a storativity of 0.0016. The report states that the bores taking from the upper aquifer are unlikely to be affected as the aquifer is confined. In addition to this a shallower bore (BN-2514) was monitored during the 72 hour test and showed no response. The predicted drawdown in the bore BN-10993, 397m away is estimated to be less than 0.5m under the frost and irrigation scenarios. This effect is considered to be less than minor.

70. Taking into account the analysis carried out by Steve Everitt of Waterline Engineering Consultants, the effects on neighbouring bores is considered to be less than minor.

Effects of the take on groundwater quality

71. The cone of depression created by water abstraction may extend to areas where there could be the potential of groundwater contamination (i.e., from contaminated sites, landfills or effluent discharges), hastening migration or recharge of contamination through the aquifer.

72. The applicant is not aware of any contaminated sites within 150 m of the bore and irrigation areas.

73. The bore is located a considerable distance from the coast (6.8 kilometres), therefore there is unlikely to be any saltwater intrusion as a result of this take.

74. Therefore, the effects of the take on groundwater quality are considered to be less than minor.

Effect on surface water bodies

75. When an aquifer is hydraulically linked to a surface water body, a groundwater take could affect flows, water quality, aquatic ecosystems, amenity values, recreational values, and the spiritual and cultural values of that water body.
76. Policy 74 of the Regional Natural Resources Plan directs council to investigate the linkage between groundwater and surface water and to determine if groundwater takes are adversely affecting water flows in streams, rivers and springs.
77. There are no significant water bodies in the vicinity of the bore. There are some small farm drains, which are used as drainage on the poorly drained flats. The bore is taking from a deep confined aquifer and there is unlikely to be any effect on surface water.
78. Therefore, the effect of the take on surface water is considered to be less than minor.

Monitoring of the water take

79. The Resource Management Regulations 2010 (SR 2010/267) came into effect on 10 November 2010. The Regulations require all consented water takes of 5 L/s or more to be metered.
80. Method 167 of the Regional Natural Resources Plan outlines the requirements for water meters, however it is considered good practice by the Bay of Plenty Regional Council to install a water meter and telemetry on all consented water takes.
81. As this application is for a take less than 5 L/s, metering of the take is not required by the water metering regulations or by the Regional Natural Resources Plan, however in line with good practice and to monitor the rate and volume of water taken under this consent, a flow meter and telemetry will be installed.

Alternative water sources

- 82. There are no significant surface water bodies in the vicinity. Therefore a surface water take is not possible.
- 83. The applicant has considered drilling another bore, 100m from the existing bore in an area considered to have allocation available, however this is a very expensive option to essentially be taking groundwater from the same source.
- 84. This take is existing and infrastructure is existing to take water from the bore. Therefore, this is the best option available to the applicant.

Summary of effects

- 85. This assessment has shown that the proposed activity will not result in minor or more than minor adverse effects on the environment. The granting of this consent will result in positive social and economic effects.

STATUTORY CONSIDERATIONS

Part 2 of the Act

86. The taking and use of surface water is consistent with the purpose and principles of the Act as outlined in Sections 5 – 8 of the Act.
87. Section 5 of the Act the activity will have no effect on the ability of the water body to meet the reasonably foreseeable needs of future generations, or on the life-supporting capacity of the surface water body and any ecosystems associated with it. Conditions will be imposed that will ensure that adverse effects on the environment are avoided, remedied or mitigated.
88. There are no matters under Section 6 of the Act that will be affected by this application. Under Section 7 of the Act particular regard has been had to the finite characteristics of the surface water body, and to the efficient use of resources. Subject to the consent being granted with appropriate conditions this activity will be an efficient use of the water resource.
89. Regarding Section 8 of the Act, the application has been prepared with consideration for iwi, and given the conclusions in this report, it is considered that iwi values will not be adversely affected in any way.

Section 104 of the Act

90. Section 104(1) requires the Council to have particular regard to a range of matters in considering resource consent applications. The following matters are of particular relevance to this application:
- (a) any actual and potential effects on the environment of allowing the activity; and*
 - (b) any relevant provisions of—*
 - (i) a national policy statement;*
 - (ii) a New Zealand coastal policy statement;*
 - (iii) a regional policy statement or proposed regional policy statement;*
 - (iv) a plan or proposed plan; and*
 - I any other matter the Consent Authority considers relevant and reasonably necessary to determine the application.*
91. Matters (a) (b) and (c) are considered to be relevant to this application and are addressed below.

Actual and Potential Effects

92. The actual and potential environmental effects of the proposed activity were considered in this report. With conditions imposed, the adverse effects will be no more than minor.

National Policy Statement – Freshwater Management

93. The NPS for Freshwater Management provides overarching objectives and policies for managing the quality and quantity of freshwater resources in New Zealand. The current status of the Regional Fresh Water Plan, discussed below, address the requirements of the NPS.

National Environmental Standards for Sources of Human Drinking Water

94. Regulations 7 and 8 of the National Environmental Standard for Sources of Human Drinking Water (NES) need to be considered when assessing water permits that have the potential to affect registered drinking water supplies that provide 501 or more people with drinking water for 60 or more calendar days each year. There are no registered drinking water supplies that will be affected by the proposed take.

Resource Management (Measurement and Reporting of Water takes)
Regulations 2010

95. The Regulations have been given consideration to in this report.

Regional Natural Resources Plan

96. The application is also considered to be consistent with the relevant objectives and policies of the Regional Natural Resources Plan.
97. An assessment of the activity against the policies in the Regional Natural Resources Plan is provided in Table 7 below.

Table 7: Regional Natural Resource Plan Policies Assessment

Policy	Policy detail	Comment
Policy 68A	<p>When considering any application the consent authority must have regard to the following matters:</p> <ul style="list-style-type: none"> (a) the extent to which the change would adversely affect safeguarding the life-supporting capacity of fresh water and of any associated ecosystem and (b) the extent to which it is feasible and dependable that any adverse effect on the life-supporting capacity of fresh water and of any associated ecosystem resulting from the change would be avoided. <p>This policy applies to:</p> <ul style="list-style-type: none"> (a) any new activity and (b) any change in the character, intensity or scale of any established activity – that involves any taking, using, damming or diverting of fresh water or draining of any wetland which is likely to result in any more than minor adverse change in the natural variability of flows or level of any fresh water, compared to that which immediately preceded the commencement of the new activity or the change in the established activity (or in the case of a change in an intermittent or seasonal activity, compared to that on the last occasion on which the activity was carried out). 	<p>This activity will not have an adverse effect on the life supporting capacity of freshwater</p>
Policy 70	<p>To allocate groundwater according to Policy 73, and at a sustainable yield that avoids permanently or unsustainably lowering water levels, or degrading water quality in aquifer systems.</p>	<p>The volume of water requested is considered to be efficient (Policy 73).</p> <p>While the bore is located in an overallocated catchment, the bore is approximately 100m from the boundary of a catchment with allocation available. There is no physical barrier between the catchment and realistically it is impossible to categorically allocate the water to either catchment. The</p>

Policy	Policy detail	Comment
		proposed take is unlikely to unsustainably lower the aquifer levels or to degrade the water quality in the aquifer system.
Policy 71	<i>To allocate water on a first in first served basis, subject to efficient use as specified in Policy 73.</i>	An assessment has been undertaken and the volume of water requested is considered to be reasonable and efficient.
Policy 72	<i>To ensure that any allocation of water does not derogate from any existing consents.</i>	An assessment of the effect on the activity on neighbouring bores has been undertaken and the effects are considered to be less than minor.
Policy 73, Method 168	<p><i>To require the efficient use of water where the efficiency is assessed as defined in Method 168.</i></p> <p><i>Assess the efficiency of the water use of a proposed activity on a case by case basis relative to the proposed use with consideration to the following:</i></p> <ul style="list-style-type: none"> <i>(a) For irrigation activities – soil moisture deficit, evapotranspiration, and reasonable water coverage for crop type. Efficient irrigation use is the minimum volume of water required to optimise production while avoiding or mitigating adverse effects on the environment, using current best management practices.</i> <i>(b) For commercial, trade and industrial processes – sufficient to meet the needs of the use with minimal waste of water.</i> <i>(c) For municipal or community water takes – sufficient to meet the needs of the urban area, including projected population growth based on Census figures.</i> 	<p>An assessment has been undertaken and the volume of water requested is considered to be reasonable and efficient.</p> <p>The SPASMO model was used to determine the volumes of water considered to be reasonable and efficient, this meets the requirements of Method 168.</p>
Policy 74	<i>To investigate the linkage between groundwater and surface water bodies to determine if groundwater takes are adversely affecting water flows in streams, rivers and springs.</i>	This has been taken into account in the assessment
Policy 75, Method 184	<i>To take appropriate action within the framework of this regional plan (including future plan changes) to address the adverse effects of groundwater takes on associated surface water bodies where</i>	There are no significant surface water bodies in the vicinity therefore the effect of this take on surface

Policy	Policy detail	Comment
	<p><i>investigations prove this is a significant issue in the areas noted in Method 184 (below).</i></p> <p><i>Investigate the linkages between groundwater and surface water in the Bay of Plenty, as necessary, in the Galatea plains, Opotiki plains, and areas where there are large abstractions of groundwater in the recharge areas of springs used for municipal water supply.</i></p>	water is considered to be less than minor.
Method 166	<p><i>Give preference to existing holders of resource consents for the take and use of water when allocating water in pressure abstraction catchments and existing consents are being replaced. This is subject to the efficient use of water (refer to Policy 73), and that the mechanisms to use the water have already been installed in association with the existing consent (including, but not limited to, irrigation systems).</i></p>	An assessment has been undertaken and the volume of water requested is considered to be reasonable and efficient.
Method 167	<p><i>Require the installation of a water measuring device to measure the take of water as a condition on a resource consent for the take of water where any of the following are met:</i></p> <ul style="list-style-type: none"> <i>(a) The take is from a stream where the Q5 7day low flow is less than 250 litres per second.</i> <i>(b) The take is for municipal water supply.</i> <i>(c) The take is from groundwater and the aquifer is at or near full allocation of the sustainable yield. This will be applied to applications for the take and use of groundwater where a sustainable yield for an identified aquifer has been included in the regional plan through a publicly notified change.</i> <i>(d) The take is from surface water and the cumulative take from the river or stream is approaching full allocation within the river or stream reach.</i> <i>(e) The take is from surface water in an area that has sensitive or significant ecological values, landscape values, recreational values, or Maori customary values and traditional instream uses.</i> <i>(f) The take is from a surface water body where water quality is degraded below its Water Quality Classification, or it is necessary to maintain the assimilative capacity of the water body.</i> <p><i>Resource consent applicants are advised to consult with BOPRC to determine if this requirement will be enacted for their proposed activity. Water measuring devices can be located on portable pumps. Water</i></p>	A water meter and telemetry will be installed.

Policy	Policy detail	Comment
	measuring devices or methods will be required, as appropriate, relative to the specific activity and site characterises. For example, where a take of water is physically restricted, that restriction may be accepted as a means to measure water flows. A flow meter is not necessarily required to comply with Method 167.	
Method 169	<p>Include any of the following conditions on resource consents for the take and use of water where appropriate:</p> <ul style="list-style-type: none"> (a) The maximum allowable water take over specific time periods and maximum abstraction rates. (b) The maximum abstraction rate or volume during water short periods, and the river or stream flow levels at which the action outlined in Method 172 are to be implemented. (c) Variations to the maximum allowable take over the duration of the consent. (d) For the take and use of surface water, specify no-take days by catchment, or processes that will be enacted, to allow monitoring of stream flows in their natural condition. 	These conditions have been included where appropriate.
Method 171	<p>Use any of the following instruments, where appropriate, to manage existing water takes in surface water abstraction pressure catchments, and aquifers where groundwater levels or quality has been adversely affected:</p> <ul style="list-style-type: none"> (a) Use water user groups to encourage the voluntary rostering or rationing of water takes, or pro rata reduction of water takes. (b) Encouraging, or recommending the surrender or cancellation of unused resource consents pursuant to section 126 and 138 of the Act. (c) Reviewing consent conditions on large water takes pursuant to section 128 (1) (b) of the Act. Environment Bay of Plenty will review a resource consent in accordance with section 128 of the Act, where it is proven that adverse environmental effects will occur or continue due to the exercise of that consent. (d) Reviewing resource consent conditions according to actual use pursuant to section 128(1) (a) or (b) of the Act, while allowing for matters under Method 168 (b) and (c). (e) Promote efficient use of water. (f) Promote the use of alternative water sources. 	<p>An assessment has been undertaken and the volume of water requested is considered to be reasonable and efficient. Alternative water sources have been considered and are not appropriate in this instance.</p>

Policy	Policy detail	Comment
	<i>In relation to groundwater, such methods may be temporary until groundwater levels or quality return to 'normal', particularly where there is saline intrusion of fresh water.</i>	


Other Matters

98. The granting of this consent subject to conditions is generally consistent with these requirements. Consent conditions will restrict the applicant to sustainable and efficient volumes of water.
99. A consent term of 15 years is requested. Significant investment has occurred to develop the orchard, install irrigation and frost protection infrastructure, and a high value kiwifruit crop is at risk. The Regional Council will impose an adequate review condition. Given this, the applicant considers that a 15 year term is reasonable and justified and this consent should be granted accordingly.

SUMMARY

The effects of the proposed water take for irrigation have been assessed as less than minor and the proposal is consistent with the regional policy and plans therefore, it is requested that the application proceed non-notified accordingly.

This report has been prepared by:

A handwritten signature in black ink that reads "Lilian Harley". The signature is written in a cursive, flowing style.

Lilian Harley
Allegrow Ltd

DRAFT PROPOSED CONSENT CONDITIONS

Conditions for Resource Consent Application No. [Application No]
Haas Orchard Limited

Under section 14(2)(a) of the Resource Management Act 1991, and Rule 38 of the Bay of Plenty Natural Resources Plan, being a discretionary activity to take and use ground water.

Subject to the following conditions:

1 Purpose

The purpose of this resource consent is to authorise and specify conditions for the take and use of groundwater from a bore for irrigation and frost protection of a kiwifruit orchard totalling 6.3 hectares on the consent holder's property located at 85 Western Drain Road, Edgecumbe.

2 Location

2.1 Groundwater shall only be taken from the bore at or about map reference NZTM 2000: 1940092 mE 5790343 mN as shown on B.O.P.R.C Plan Number RM20-XXXX.

2.2 Groundwater shall only be used for irrigation and frost protection on the area of land shown on B.O.P.R.C Plan Number RM 20-XXXX.

3 Quantity, Rate and Duration of Groundwater Take and Use

3.1 The rate of take from the bore shall not exceed a total of 4 litres per second.

3.2 For irrigation purposes: the total weekly quantity of groundwater taken and used shall not exceed 2,205 cubic metres.

3.3 For irrigation purposes: the total quantity of groundwater taken and used shall not exceed 31,199 cubic metres per irrigation season, being from 1 October to 30 April (see Advice Note 6).

3.4 For frost protection purposes: the total daily quantity of groundwater taken shall not exceed 945 cubic metres.

3.5 For frost protection purposes: the total quantity of groundwater taken and used shall not exceed 14,175 cubic metres per irrigation season, being from 1 May to 30 November (see Advice Note 6).

3.6 The total quantity of groundwater taken and used shall not exceed 45,374 cubic metres in any 12 month period.

4 Water Use Monitoring

4.1 The consent holder shall install a water meter and telemetry on the intake prior to the exercise of this consent. The water meter shall:

- (a) meet the Resource Management (Measuring and Reporting of Water Takes) Regulations 2010 (see Advice Note 9);
- (b) be installed and maintained in accordance with the manufacturer's specifications, and to the satisfaction of the Bay of Plenty Regional Council;
- (c) be installed at a location that will ensure the entire water take is measured;
- (d) be sealed and as tamper-proof as practicable;
- (e) be suited to the qualities of the water it is measuring (such as temperature, algae content and sediment content);
- (f) be able to be fitted with a recording device; and
- (g) be able to measure both cumulative water abstraction and the instantaneous rate of take to an accuracy of $\pm 5\%$.

4.2 The water meter shall be verified by a suitably qualified operator within two months of the consent being exercised. Verification by a suitably qualified operator must also be performed at least every five years thereafter, or as requested by the Bay of Plenty Regional Council. Within one month of verification being undertaken, the consent holder shall provide appropriate evidence of verification to the Bay of Plenty Regional Council (see Advice Note 1).

4.3 All practicable measures shall be taken to ensure that the water meter and electronic recording device are fully functional at all times. All malfunctions of water meter(s) and electronic recording device shall be reported to the Bay of Plenty Regional Council within 24 hours of observation and appropriate repairs undertaken as soon as practicable following observation of malfunction (see Advice Note 1).

4.4 Staff of the Bay of Plenty Regional Council shall be allowed access to the water meter and recording device, wellhead and reticulation for the purpose of compliance monitoring.

4.5 The water meter shall record for each well of the following information:

- Hours pumped;
- Abstraction rate (litres per second);
- Quantity of water taken from the bore (cubic metres per day);
- If no water is taken, the volume shall show zero (0) cubic metres.

Such records shall be available for inspection by Bay of Plenty Regional Council staff.

4.6 Electronic copies of the water records required by condition 4.5 shall be in a suitable format for electronic storage and reported electronically on a monthly basis to Bay of Plenty Regional Council.

4.7 The consent holder shall keep a daily record of the purpose that water has been used for and shall make these records available to the Bay of Plenty Regional Council on request.

5 Notification

Within one month of the granting of this consent, the consent holder shall provide, in writing to the Bay of Plenty Regional Council, notification of the contact details (including phone number) of the person(s) responsible for orchard management and compliance with consent conditions. Any changes to these contact details shall be provided in writing to the Bay of Plenty Regional Council (see Advice Note 1).

6 Regional Monitoring

For the purpose of groundwater investigations, the consent holder shall be required to cease taking water for a period of up to 72 hours when requested by the Bay of Plenty Regional Council, on a maximum of two occasions per year.

7 Review of Consent Conditions

7.1 The Bay of Plenty Regional Council may, on completion of an assessment of effects, environmental investigation or compliance report that shows there is an adverse effect on the environment as a result of the water take, serve notice on the consent holder under s128(1)(a)(i) and/or s128(1)(a)(iii) of the Resource Management Act 1991 of its intention to review the conditions of this consent. The intention of such a review is to:

- (a) Deal with any adverse effect on the environment which may arise from the exercise of this consent and which is appropriate to deal with at a later stage; and/or
- (b) Require the adoption of the best practicable option to remove or reduce any adverse effect on the environment; and/or
- (c) Address circumstances where the subject water source shows signs of stress and where a reduction of allocation is required, irrespective of identified allocation limits.

7.2 The Bay of Plenty Regional Council may, on the fifth anniversary of this consent or annually thereafter, serve notice on the consent holder under s128(1)(a)(iii), and/or s128(1)(b) and/or s128(1)(ba) of the Resource Management Act 1991 of its intention to review the conditions of this consent. The intention of such a review is to:

- (a) Give effect to any Act of Parliament, Regulation, National Policy Statement, Regional Policy Statement or relevant Operative Regional Plan, which controls or restricts the allocation of water from the aquifer authorised by this consent; and/ or
- (b) Ensure the relevant Water Management Area (WMA) meets the freshwater objectives and freshwater quality limits set in the Operative Regional Plan pursuant to Policy A1 of the National Policy Statement for Freshwater Management; and/or
- (c) Enable any levels, flows, rates, or standards set in a relevant Operative Regional Plan to be met; and/or
- (d) Ensure that the use of water authorised by this consent remains an efficient use of the groundwater resource; and/or

7.3 The fair and reasonable costs associated with any consent condition review under clauses 7.1 or 7.2 shall be recovered by the Bay of Plenty Regional Council from the consent holder.

8 Resource Management Charges

The consent holder shall pay the Bay of Plenty Regional Council such administrative charges as are fixed from time to time by the Regional Council in accordance with section 36 of the Resource Management Act 1991.

9 Term of Consent

This resource consent shall expire on 31 August 2035.

10 The Resource Consent hereby authorised is granted under the Resource Management Act 1991 and does not constitute an authority under any other Act, Regulation or Bylaw.

Advice Notes

1. *Unless otherwise specified all monitoring records and notification required under consent conditions shall be directed to the Regulatory Compliance Manager, Bay of Plenty Regional Council, PO Box 364, Whakatāne 3158, or fax: 0800 884 882 or email compliance_data@boprc.govt.nz (compliance records) (notification) . This notification shall include reference to the consent number [Insert number].*
2. *Telemetry data should be supplied as per XML Data Transfer Standard- file vista or FTP, with the identifier element [consent number] _[CBXXXX] made up of the consent number and the monitoring code. The Bay of Plenty Regional Council needs to be notified when this data is to be transferred (Appendix 1).*
3. *This resource consent will lapse five years from the time of being granted, if not given substantive effect to by the consent holder within that time.*
4. *The consent holder is advised that non-compliance with consent conditions may result in enforcement action against the consent holder and/or their contractor(s).*
5. *Alteration of the bore depth or screening of another aquifer is not authorised under this consent.*
6. *The allocations included in condition 3.3 and condition 3.5 were calculated using the Soil Plant Atmosphere System Model for Irrigation (SPASMO-IR), calculated as 31,199 cubic metres per irrigation season, and equivalent to 15 days' allocation for frost protection, calculated as 14,175 cubic metres per frost protection season. Total annual allocation is 45,374 cubic metres per year.*
7. *The consent holder is encouraged to take practicable measures to ensure water conservation and efficient operation of the bore intake and irrigation/frost protection system.*

Efficiency measures can include, but are not limited to:

- *Remedying water losses;*

- *Water storage;*
 - *Conserving and using water more efficiently; and*
 - *Monitoring soil moisture levels to ensure minimal water requirements.*
8. *Any review of consent conditions undertaken in accordance with condition 8.1 and section 128 of the Resource Management Act 1991 may result in a reduction of the rate and/or quantity of water take authorised by this consent.*
9. *Resource Management (Measuring and Reporting of Water Takes) Regulations 2010 came into force on 10 November 2010. Details can be found at www.boprc.govt.nz/environment/resource-consents/water-metering or www.boprc.govt.nz and search for 'water metering'.*