From:	Alistair Cross
Sent:	Thursday, 21 January 2016 1:47 PM
To:	Kirsty van Reenen
Subject:	FW: Unilever draft consent condition WGN160011 16 November 2015.docx
Follow Up Flag:	Follow up
Flag Status:	Completed

Kirsty, as discussed.

Al

From: Ian Leary Sent: Tuesday, 17 November 2015 2:38 p.m. To: Alistair Cross Subject: RE: Unilever draft consent condition WGN160011 16 November 2015.docx

Al,

The s37 issue is not an issue at all. So yes I will agree to that.

In respect to Nigel, I'd like to get some response fairly quickly but happy to deal with you directly in the first instance.

Regards

Ian Leary Director - Survey and Planning SpencerHolmes Limited

PO Box 588, Wellington 6140 Level 6, 8 Willis Street, Wellington 6011

www.spencerholmes.co.nz

**P** 04-472-2261 **F** 

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From: Alistair Cross [mailto:Alistair.Cross@gw.govt.nz]
Sent: Tuesday, 17 November 2015 2:30 p.m.
To: Ian Leary
Subject: Re: Unilever draft consent condition WGN160011 16 November 2015.docx

lan, just a further point.

While we work their this issue together, are you comfortable to agree to Kirsty's request around a s37 extension of timeframes?

Cheers

Al

Al Cross Manager | Environmental Regulation Greater Wellington Regional Council P: 04 830 4209 Cell: 027 201 3571

Sent from my iPad

On 17/11/2015, at 1:56 pm, Ian Leary wrote:

Al,

Further to our conversation this morning, I forward the email sent to me from Kirsty yesterday regarding the draft conditions. The main issue is on the term of the permit. The term sought was 35 years. As you can see below, despite seeking a 35 year permit, we have been advised that Council will only grant it for 10 years.

The permit is currently held by Unilever who occupy the site on Jackson St Petone. This site has been bought by Prime Property Group. Settlement occurs next month. There is the complication that Unilever want the permit in their name until settlement is finalised, however it appears that we have worked around that and transfer will occur after settlement.

The primary issue we have is the term of the permit and the certainty needed to justify the necessary investment in the site. There is significant interest in the water for bottling/export. The indications I have been given is that investment in infrastructure proposed is around \$25million.

During the process, we have discussed with officers the issues of efficient allocation of water and concerns that Unilever has steadily reduced its take over recent years. The applicant has proposed a condition that would allow GWRC to reduce the take, should it not be used. This is effectively a sinking lid concept. The suggestion was that there is an initial 10 year permit and then a subsequent 5 yearly review where unused portions of the take could be subsequently re-allocated.

This was seen as a compromise which allowed investors to obtain certainty and allow for the substantial infrastructure investment necessary.

It is noted that the recent Proposed Natural Resources Plan extends the take limit for the aquifer and it is subsequently not considered over allocated.

We also note that the biggest user of the aquifer by some measure, Wellington Water has granted their written approval to the application.

We seek your review of the situation and GWRC officer's decision to grant the permit for only 10 years. We look forward to your earliest response.

Regards

#### Ian Leary Director - Survey and Planning SpencerHolmes Limited

PO Box 588, Wellington 6140 Level 6, 8 Willis Street, Wellington 6011

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From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz]
Sent: Monday, 16 November 2015 3:17 p.m.
To: Ian Leary
Subject: Unilever draft consent condition WGN160011 16 November 2015.docx

Hi lan,

Attached are the draft consent conditions for the Unilever water take renewal.

It the moment I will be recommended a consent duration of 10 years. This is consistent with the duration for other water permits in the region. I longer consent duration would need to be justified.

Neil from Unilever will need to confirm in writing that he has read the consent application and consent conditions so that we can put Unilver as the consent holder.

Give me a call to discuss any of this once you have had a chance to consider these. The consent is due on the 25 Nov (next Wed). It takes a while for things to get through QA and word processing so if we haven't reached agreement by the end of Wed (18<sup>th</sup>) can you please agree to an extension of the timeframes under s372(a) of the RMA?

Kind Regards

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** www.gw.govt.nz

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<Draft consent condition WGN160011 16 November 2015.docx>

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From:	Kirsty van Reenen
Sent:	Friday, 24 July 2015 3:29 PM
То:	'lan Leary'
Subject:	Water permit application WGN160011 Prime Property Ltd
Attachments:	s92(1) & 95E letter WGN160011 Prime Property.pdf; Form-1b-Written-Approval-of-
	an-Affected-Person (1).pdf

Hi lan,

Tried giving you a call. I've sent you letter requesting further info and written approval from Wellington Water for this application – see attached. Can you give me a call when you are back in the office so we can discuss this?

Kind Regards

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz

From:	Kirsty van Reenen
Sent:	Monday, 16 November 2015 3:17 PM
То:	'lan Leary'
Subject:	Unilever draft consent condition WGN160011 16 November 2015.docx
Attachments:	Draft consent condition WGN160011 16 November 2015.docx

Hi lan,

Attached are the draft consent conditions for the Unilever water take renewal.

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Give me a call to discuss any of this once you have had a chance to consider these. The consent is due on the 25 Nov (next Wed). It takes a while for things to get through QA and word processing so if we haven't reached agreement by the end of Wed (18<sup>th</sup>) can you please agree to an extension of the timeframes under s372(a) of the RMA?

Kind Regards

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** www.gw.govt.nz

From: Sent:	Geoff Williams Tuesday, 1 September 2015 4:58 PM
To:	lan Leary
Cc:	Kirsty van Reenen
Subject:	B/20/04/08 - Proposed transfer and renewal of water take consent at 476-496 Jackson St Petone (Unilever site) - Signed affected party approval
Attachments:	W0262500R001 Final with Figures.pdf; 150144 - Consent Application - Water Take and Transfer - July 2015.pdf; RE: B/20/04/08 - Response to PPG - Affected party approval - Unilever Site [PPG acceptance of amended consent condition]; Affected Party Approval from Wellington Water Ltd.pdf

Hi lan,

Please find attached signed affected party approval from Wellington Water Ltd and a copy of the 3 documents referenced.

Could you please pass on to the applicant that Wellington Water is keen to develop a relationship with future tenants at the site so we can include them in our drought communications strategy?

Cheers, Geoff

From: Ian Leary [mailto Sent: Sunday, 12 July 2015 2:01 p.m. To: Geoff Williams Subject: B/15/01/01 - Unilever Site - Renewal of Water Permit

Geoff,

You may recall we discussed the renewal and transfer of the water permit for the Unilever site, some time ago. In fact my records indicate it was the 19<sup>th</sup> May this year.

You advised that at that time, in order for Wellington Water to consider giving their written approval, the applicant would be required to obtain a full report and examination of the latest model.

The applicant has engaged PDP to prepare the necessary analysis. That is attached.

Given the length of time that it has taken to prepare and deliver the report, we have also had to complete the application. That will be lodged with GWRC tomorrow (Monday the 12<sup>th</sup> July 2015).

While the application has been lodged, we are happy to respond to any queries directly.

I attach a copy of the PDP report and a copy of the application text.

As discussed, please advise if you have any queries. I will contact you directly towards the end of the week to discuss.

# Ian Leary **Director - Survey and Planning**

SpencerHolmes Limited

www.spencerholmes.co.nz

**P** 04-472-2261 **F** 

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# 1b Written approval of an affected person

,

Approval from a person who is potentially affected by a resource consent application or by an application to change resource consent conditions under section 95 of the Resource Management Act 1991.

Part A: To be completed by the applicant	Office use only	y:
Name: Prime Property Group	FILE REF:	
Proposal(s): Transfer and renewal of water take permit. Location: 476-496 Jackson St, Petone, Lower Hutt		
Location: 476-496 Jackson St. Petone, Lower Hutt	Doc. No. Referred to	Int
Resource consents required: Water permit		
Consent/permit number (if known): WGN070193 [25890] (existing)		
Part B: To be completed by the person giving their approval		
Name: Mark Kinnig		
Organisation: Wellington Water Limited Position: Group Manager, Network Strategy & Planni Address of property: 25 Victoria St, Petone, Lower Hutt		
Position: Group Manager, Network Strategy & Planni	29	
Address of property: 25 Victoria St, Petone, Lower Hutt	V	
Email:		
Phone/Cell:		

I/we are the owners/occupiers (select one) of the property listed above, that may be potentially affected by the proposal.

I/we have read the full resource consent application, the Assessment of Environmental Effects (AEE) and sighted all relevant site plans and supporting information for the proposal.

List document names and dates below (Please note that all application documents have to be listed here so we can accept your written approval):

•	Application for resource consent - July 2015 (edocs #1507414)
•	Application for resource consent - July 2015 (edocs #1507414) Pattle Delamore Partners Ltd technical report - July 2015 (edocs #1507414)
•	Email from Ian Learny to Geoff Williams - 25 Aug 2015 (edocs #1518446)
•	···
•	*** *
•	
•	

I/we give approval for the proposal as described by this resource consent application.

I/we understand that:

- In signing this approval, I/we understand that Greater Wellington Regional Council must decide that I/we are no longer an affected person, and that Greater Wellington Regional Council must not have regard to any adverse effects of the proposal on me/us, or my/our property; and
- Greater Wellington Regional Council will consider the application for resource consent on a nonnotified basis if all affected persons provide their written approval (section 95E of the Resource Management Act 1991); and
- I may withdraw my written approval by giving written notice to Greater Wellington Regional Council, before the hearing, if there is one, or, if there is not, before a decision is made on the resource consent application.

Signature of person giving approval 1/9/15 (or person authorised to sign on behalf of Date: person giving written approval):

Note: If you are signing as an authorised person please state the form of authority you have from the person you are signing on behalf of.

Note: Do not sign this form if you do not understand this form or the application.

If you have any questions about the resource consent process please contact Greater Wellington Regional Council. For Wellington activities please call the Environment Help Desk on 04 830 4255. For activities in the Wairarapa please call our Masterton office on 06 378 2484, or you can email us at **notifications@gw.govt.nz**.

150144c03 - s92 response

25<sup>th</sup> August 2015



PO Box 588 Level 6, 8 Willis Street Wellington 6140, New Zealand Phone 04 472 2261 Email admin@spencerholmes.co.nz

Consents Management Greater Wellington Regional Council PO Box 11646 Manners Street Wellington 6142 Attn: Kirsty van Reenen

Dear Kirsty,

# **Re:S92** Response Unilever – WGN160011 [33583] - Water Permit Renewal and Transfer

We are writing in response to your further information request dated the 24 July 2015.

We note that the Council's letter had advised that the s92 response should be provided by the 14<sup>th</sup> August 2015. We have previously verbally advised that the information would take longer than that to provide. You confirmed in that discussion that this was not an issue.

We respond to each of the points raised in that letter in the order they were raised.

# **Query 1: Efficiency of Allocation.**

This first request for further information states that:

The application is for a "roll-over' of the consent abstraction limits....but a description of the proposal and justification for the requested quantity and rate of abstraction has not been provided.

You have also asked for:

a) Details of the intended use of the site and the likely water requirements of those industry's (estimates based on other sites is fine)

The applicant is seeking consent to allow water to be taken, primarily for the export of water for bottling. This was set out in the application. We have researched other major consents for similar operations. One example is from Naturally Pure NZ Waters<sup>1</sup>:

TASMAN - There are currently consents in place to take 50 million litres per annum for bottled water production. The consent is every 10 years and is renewed on the 31 May 2017.

TAI TAPU - The bore that supplies the Company's SpringFresh water plant is consented for 91.25 million litres per annum and is renewed on 31 January 2035.

<sup>&</sup>lt;sup>1</sup> See: http://www.naturallypurenz.com/#!where-our-water-is-sourced/c1axw

JACKSONS BAY - The major source of water available for export in bulk carriers is at Jackson's Bay, South Westland. There is 9.6 billion litres per annum of water currently consented that can be taken from this source. Additional consent opportunities are available to increase the total amount of water available from this source to 50 billion litres per annum.

NAPIER- Naturally Pure NZ has negotiated to secure a property 14 km from Port Napier with rail access. This site has a consented water take of 100 million litres a year expiring on the 31th May 2027. This site will be developed to mirror the boxed water and container filling operation at Christchurch.

TOTAL - The current permitted total take over the 4 sites for this exporter is 9.8 million  $m^3$  of water.

This single exporter has a water take which in total, is over 10 times the amount consented for the Unilever Site.

A second example is One Pure International Group. This company has a consent to extract 400 million litres a year<sup>2</sup>. This is approximately 45% of that sought for the Petone Plant.

Industry advice<sup>3</sup> indicates that 80% of the world's bottled water is recycled. Recycled water uses considerable energy to produce. New Zealand's water sources, such as the Waiwhetu Aquifer are of high quality and free of pollutants. Therefore, the water is highly sought after.

New Zealand also currently enjoys a free trade agreement with China, which avoids a 21% duty on imported water products from other countries (with the exception of Chile).

The development of a water export operation on the site, will require an initial investment in infrastructure, which is well in excess of \$10-15 million.

The potential for growth and investment in this export commodity over the next 10-15 years is significant. The natural advantages of New Zealand are its international reputation, its sources of clean unpolluted waters and the free trade access to large overseas markets. These justify the granting of this permit for the 35 year period sought. Granting of this permit allows for the full development of this resource and the investment in infrastructure required.

The amount of water requested is not "out of scale" with other permits granted around the country. The export and development of NZ's water resources for commercial sale is largely in its infancy, however the granting of the permits will allow the local operation to proceed with certainty and allow the infrastructure to be developed.

So while it is proposed to take the water for consumption/bottling purposes, the take may also be partially "shared" with other industrial use on this site. Unilever has reduced its overall actual take when it changed the nature of its production in the early 1980's. This is largely irrelevant to the application at hand.

Industrial/manufacturing use of at least part of the water take, remains a highly likely outcome.

<sup>&</sup>lt;sup>2</sup> See http://www.nzherald.co.nz/hawkes-bay-today/news/article.cfm?c\_id=1503462&objectid=11402076

<sup>&</sup>lt;sup>3</sup> Phil Burmester – Executive Director of Naturally Pure New Zealand Ltd

Unilever's allocation was not transferred to any other parties due primarily with the fact that industrial users, firstly require land on which to base a water demanding activity.

Attached to the application is a letter from the Hutt City Council's City Development Manager. That letter supports the application for the water take and states:

The city's commercial and industrial land supply is largely fixed by the extent of existing development along with our topography and territorial boundaries. At the time Unilever was considering the sale of this site we undertook an in-house economic assessment of various types of development on the site, including residential. This determined that the economic impact from its continued use as an industrial/commercial site provides the highest value added GDP and employment impacts for the city/region.

The proposal to renew and extend the water permit for this land will allow for industrial use of this site to continue, thereby making a positive contribution to the economic vitality of the local area and Region.

You have specifically referenced the basis for this particular request for further information is Objective B3 of the National Policy Statement for Freshwater Management (NPSFM). The specific policy states:

To improve and maximise the efficient allocation and efficient use of water.

It is further stated by Council that Objective B3 of the NPSFM is given effect to, by Policy 6.2.18 of the Regional Freshwater Plan (RFP). Policy 6.2.18 is also discussed in the application.

I note that Policy 6.2.18 is headed "Water Conservation."

I also note that the policy has 3 matters which are required to be considered for resource consent to take water. These are:

- 1. The amount of water required is reasonable, considering the intended use of the water; and
- 2. The need for accurate measurement of the take from any river listed in Table 6.1 or method 8.5.5; and
- 3. For any applicant taking water for public supply, the extent of any:
  - Demand management programmes; or
  - Drought management plans.

Objective B3 of the NPSFM and Policy 6.2.18 of the RFP are both already discussed in the application. The conclusion reached in the application was that the proposal is consistent with both Objective B3 and Policy 6.2.18. It is presumed that Council are requiring an expanded explanation of the reasons why we have reached the position that the proposal is consistent with these policy provisions.

Dealing firstly with items 2 and 3 of the policy, we presume that the further information request does not require further discussion of these provisions. The take is not from a river nor is the applicant taking for the purpose of public supply.

In respect to point 1, the context of the policy needs to be considered. The Policy is headed *"Water Conservation"*, therefore the policy is inherently linked to ensuring the sustainability and efficient use of a water resource.

The policy also is generic in that it relates to water being taken from rivers, lakes and aquifers.

In terms of the efficiency of the use of the allocation, recognition must be made of the fact that the major user of the aquifer, is the Wellington Regional Council Bulk Water Services. Their annual take is 30,253,860m<sup>3</sup> per year. This is for public supply.

The existing authorised take for Unilever is 925,600, which is only 3% of the Bulk Water Services take and 2.8% of the permitted take from the Waiwhetu Aquifer<sup>4</sup>.

From the perspective of actual effect on the conservation of the water within the aquifer, the renewal of this permit can be considered to have a minor effect, simply based on the percentages discussed above.

From a conservation perspective, water that is not drawn from the aquifer simply flows to the sea. It is unlikely at this point that other users will demand the water as they would need firstly access to the land to develop activities from which to operate.

As discussed in the HCC letter, industrial land supply in the area of the aquifer is in limited supply. The absence of available land, restricts the demand as is demonstrated in the HCC letter of support for this proposal.

As discussed above, the requested take is consistent with other takes in the country for water bottling and consumption. The renewal of this quantity and length of the permit is vital to give the new site tenants the confidence to make the significant infrastructure investment.

Having reviewed our conclusions on Objective B3 of the NPSFM and Policy 6.2.18 of the RFP, we reiterate and confirm our view that the proposal to renew the water permit for 35 years is consistent with these provisions.

# **Query 2: Bore locations and consents**

The attached letter from PDP responds to this query.

# **Query 3: Abstraction Details of the Bores**

The attached letter from PDP responds to this query.

#### **Query 4: Transfer of the Permit**

PPG accepts your advice that the permit must be transferred from Unilever prior to the granting of the new permit can be granted/commenced. We have received verbal advice on this issue from Cooper Rapley Lawyers. This advice was provided by experienced RMA lawyer John Maassen.

<sup>&</sup>lt;sup>4</sup> Pursuant to Rule 19 of the Operative Regional Freshwater Plan

#### **Query 5: Comparison of Somes Island Data**

The attached letter from PDP responds to this query.

#### Query 6: Effects of non compliance from GWRC Waterloo wellfield

The attached letter from PDP responds to this query.

# **Query 7: Alert Aquifer Level**

PDP have recommended in their report that the alert level be reduced from 2.5 to 2.45. We have discussed this with Bulk Water Services<sup>5</sup> and advise that the applicant (PDP) is not proposing to reduce the alert level for its own consent. It would be fully at GWRC's discretion to adopt this recommendation if it deems it appropriate.

PPG in this instance have simply sought a roll-over of the existing conditions.

Discussions with Bulk Water Services have centred largely around the issue of rationing when the pressure in the aquifer drops below 2.3.

PDP have responded specifically to the issue in their attached letter.

The further information request dated the 24<sup>th</sup> July 2015, then lists 5 additional items under the heading "*Other comments in the application*". We are unsure as to whether the provision of responses to these items is required or voluntary. We have responded to all points where appropriate.

# **Query 8: Requirements for Telemetry**

Your point is noted. The existing bores would be required to have telemetry provided in accordance with the RMA Regulations this year.

On confirmation of the renewal of the permit, PPG will provide the necessary equipment before exercising the consent.

# **Query 9: Aquifer Recovery**

PDP have responded specifically to the issue in their attached letter.

# **Query 10: Figure 5 Labelling Error**

The amended figures from the original report are appended below.

# Query 11: Discrepancy in the maximum abstraction rate.

PDP have responded specifically to the issue in their attached letter

<sup>&</sup>lt;sup>5</sup> Consultation discussions and correspondence has been undertaken with Geoff Williams on the 19<sup>th</sup> May 2015, the 12<sup>th</sup> July 2015, the 11<sup>th</sup> 20<sup>th</sup> and 25<sup>th</sup> August 2015.

#### **Query 12: Masking of Unilever Effect on Recovery**

PDP have responded specifically to the issue in their attached letter

#### **Affected Party Approval**

As already discussed above, we have been consulting with Geoff Williams of Wellington Water (WW).

WW have requested as part of the written approval process, a minor change to one of the existing consent conditions. PPG have agreed to accept that request, subject to GWRC approval.

Condition (4) of the existing water permit will be altered to read as follows:

If the pressure in the Waiwhetu Aquifer drops to an average, over a 24 hour period, of +2.3 metres above datum, as measured by the McEwan Park (site number 1428009) water level monitoring station, or any other official Wellington Regional Council water level monitoring station in the Petone and Seaview area, the permit holder shall comply with all abstraction restrictions and/or rostering as directed by the Manager, Environmental Regulation, Wellington Regional Council. This will include priority given to abstraction from the Waiwhetu Aquifer for public supply purposes.

The application is now formally amended to include this change of condition. From PPG's perspective, this change to the condition simply explicitly states what would occur in practice, should the pressure fall to +2.3 metres above datum. The nett effect of the change is nil.

WW have advised that there are procedural issues to be resolved, however the written approval should be forthcoming in the next 1 to 2 weeks. Should there be any issues with obtaining the written approval, we will advise.

We look forward to your considerations on this matter and trust that you will be able to confirm the transfer and subsequent renewal of the permit in due course.

Yours faithfully Spencer Holmes Limited

Ian Learv **Director - Survey and Planning** 

cc:

From:	Kristin Aitken <
Sent:	Tuesday, 28 July 2015 4:09 PM
To:	Kirsty van Reenen
Cc:	Geoff Williams; Keith Woolley; Piotr Swierczynski; Yon Cheong
Subject:	WGN160011 renewal of Unilever water take Lower Hutt
Follow Up Flag:	Follow up
Flag Status:	Completed

#### Hi Kirsty

I understand that GWRC has identified Wellington Water as an affected party in terms of section 95E of the RMA in relation to the application from Prime Property Group for the renewal of an existing water permit relating to the former Unilever site at 476 Jackson Street, Petone.

The following sets out our interests and concerns with this proposal.

Wellington Water abstracts on average about 40% of the drinking water supply to the four cities from the Waiwhetu aquifer. In drought conditions, when our river sources become depleted, the aquifer proportion of our total supply increases to over 60%. We recognise our role as the primary user of the aquifer and we support good management of the resource. We are interested in any activities that could have an impact on the availability and/or quality of the water for public supply purposes.

#### Our concerns about this application relate to:

- The impact of the abstraction on Wellington Water operations
- Priority being given to public supply
- Saline intrusion risk management

#### Impact on Wellington Water Operations

The proposed renewal of the water take consent at the Unilever site would impact on Wellington Water operations when aquifer levels reduce such as during summer conditions. The abstraction point is less than 400m from the McEwan Park monitoring well which is used to regulate bulk water abstraction from the aquifer. The predicted drawdown of around 90mm is not insignificant when the resource is stretched.

#### Priority given to public supply

The Regional Freshwater Plan and Draft Natural Resources Plan give priority to water allocation for public supply. The proposed responses by the applicant to trigger levels being reached (Table 4 of the PDP report) does not appear to be consistent with this. We would like to be included in the discussion around how this will practically be achieved for this consent.

#### Saline intrusion risk management

A significant abstraction from the Waiwhetu aquifer close to the foreshore is inherently higher risk than further up the valley. This is because of the potential for localised drawdown to lead to salt water intrusion and damage to aquifer water quality. The fact that this is a high risk location should be reflected in the constraints placed on any abstraction. The proposal for continuous abstraction at 2.5ML/d will have a negative impact on the effectiveness of the saline intrusion risk management framework proposed by Gyopari in 2014. This is because localised drawdown will mean the McEwan Park monitoring well will not give a level indication representative of the wider aquifer

The outcome that Wellington Water is after is to ensure that the continued supply to the public of safe drinking water is prioritised over other abstractions. This requires the careful management of the Waiwhetu aquifer in drought conditions and managing the risk of saltwater intrusion.

Wellington Water would like to work with the applicant and Greater Wellington to ensure these outcomes are met through appropriate consent conditions. I understand that the applicant's planner will be in touch with Geoff Williams to discuss.

Regards

Tel

Kristin Aitken Principal Advisor, Planning

Mob



Private Bag 39804, Wellington Mail Centre 5045 Level 4, IBM House, 25 Victoria Street, Petone, Lower Hutt www.wellingtonwater.co.nz

Wellington Water is owned by the Hutt, Porirua, Upper Hutt and Wellington city councils and Greater Wellington Regional Council.

We manage their drinking water, wastewater and stormwater services

From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz]
Sent: Friday, 17 July 2015 11:44 a.m.
To: Kristin Aitken
Subject: WGN160011 renewal of Unilever water take Lower Hutt

Hi Kristin,

We have received the application for the transfer and renewal of the Unilever groundwater take in Lower Hutt. The applicant is Prime Property Group Limited – application attached. We are yet to make a decision on s95E affected persons.

It will be good to have a chat with you once you have looked at this to understand Wellington Waters level of interest in this application.

Kind Regards

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz

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From:	Rose Morris
Sent:	Thursday, 16 July 2015 3:14 PM
To:	Kirsty van Reenen
Cc:	'Andrea Broughton'
Subject:	FW: Hydrologist consultant
Follow Up Flag:	Follow up
Flag Status:	Completed

Hi Andrea,

My colleague Kirsty will be in touch as she has a consent she'd like you to review.

Actually meant to send her your details just now... as I'm sure you know your phone number ©

Rose

From: Rose Morris Sent: Thursday, 16 July 2015 3:12 p.m. To: 'Andrea Broughton' Subject: Hydrologist consultant

Andrea Boughton

Usually reach her on her cellphone 🙂

#### Rose Morris | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Shed 39, 2 Fryatt Quay, CentrePort, Wellington | PO Box 11646, Manners St, Wellington 6142 T: 04 830 4175

From:	Andrea Broughton <
Sent:	Wednesday, 22 July 2015 11:00 PM
To:	Kirsty van Reenen
Subject:	Re: WGN160011 Unilever water take renewal
Follow Up Flag:	Follow up
Flag Status:	Completed

Hi Kirsty

Further to my email earlier today please see my comments regarding the PDP EIS report below. I have provided quite a bit of detail but I thought that given GWRC have not assessed any of Chris Woodhouse's work before it was warranted.

Your questions to me were:

• Is the application, in particular the PDP report, fit for purpose? Are there information gaps or areas that need further clarification to fully understand the effects of the proposed water take? Generally the PDP report is fit for purpose. Please see my comments below.

• The Waiwhetu Aquifer is a significant resource in terms of providing water for public water supply. Wellington Water hold consents to take water for public water supply from the aquifer and have expressed an interest in this application (although a decision on affected persons has not yet been made).

Do you agree with the assessment of effects on the bulk water supply abstraction? Yes.

In particular, during periods of high water demand both bulk water and the applicant will likely be drawing their full allocation, what risks are there in terms of the aquifer pressure dropping, saline intrusion and the ability of bulk water to be able to continue to abstract water for public water supply during these periods. I think there could be a risk of the 'stand-by' trigger being activated more often but this is based on PDPs conservative estimates (which is quite appropriate). It will be hard though to determine what contribution Unilever bores will have to that drawdown given Waterloo Borefield abstractions appear to mask other bore drawdown effects (90% Waterloo vs 3% Unilever).

Should we place restrictions on this applicants consent to protect the ability for bulk water to abstract water during periods of high water demand? Yes, if it is practical. Please see my comments below. However, how will GWRC know the trigger has been breached by Waterloo alone but Unilever gets the ramp down not Waterloo?

The current consent includes a condition (condition 4 of WGN070193 [25890] in the attachments to the application) which required the consent holder to comply with abstraction limits directed by Wellington Regional Council. We would prefer the condition to be more specific about restrictions (i.e. reduction or cease take when aquifer pressure gets to certain levels) to avoid the consent holder trying to counter argue a direction by WRC, do you have any suggestions for appropriate restrictions. Could a correlation be made between the Unilever pumping bores abstraction rate and groundwater pressure head, and bore R27/0122 trigger levels of 2.5m amsl, 2.3m asml and 2.0m amsl? Maybe Mark could work this out using the Hutt Groundwater Model?? Or should we ask PDP to do this? This may require PDP to undertake pump tests on the abstraction bores. I am unsure how this could be done given the Waterloo Borefield could breach the trigger levels without any input by Unilever (Waterloo Borefield abstractions seem to masks drawdown effects by the Unilever bore(s)).

• Do you agree with the applicants assessment of effects on other nearby groundwater users, including the Shandon Golf Club? Yes

• Do you agree with the assessment of effects on the Hutt River? Yes

• Water permits are generally granted for a period of 10 years. The applicant has sought a consent duration of 35 years, do you have any comments on consent duration? Are there any uncertainties about effects of the abstraction that would warrant a consent of less than 35 years? I think 35 years should be okay if the consent conditions are tight and there is always a clause in there allowing GWRC to alter conditions (as you already do) especially if any scientific evidence comes to light that requires the model to be altered.

Any other comments See my comments below

We haven't reviewed any work by Chris Woodhouse before so would be interested in what you think about his assessment. Give me a call if you have any questions or need any further info. As I mentioned above...I have provided a bit of detail on my assessment of Chris Woodhouse's work so that you can get a feel for how he has done. I think overall his work is okay, maybe a bit sloppy with ensuring his graphs actually represent what he is saying.....

# **COMMENTS**

1. Overall the report addresses all the important issues and PDP took on board Mark's advice.

2. T and S were set at a conservative 28,000 m<sup>2</sup>/day and 6.4 x  $10^{-4}$ , respectively. These values were derived from Mark's hydraulic conductivity of 1400 m/day and specific storage of  $3.2 \times 10^{-5} \text{ m}^{-1}$ , and assuming a minimum aquifer thickness of 20m. These values along with a pumping rate of 2543 m<sup>3</sup>/day.

3. PDP state that at present, fluctuations in pumping rate at Waterloo have the most significant influence on 24-hour mean water levels in monitoring well R27/0122.

4. Drawdown is expected to be 1.99 m after 365 days pumping at the maximum consented rate from the Waterloo wellfield. The expected drawdown due to pumping at the proposed maximum rate from the Unilever site is expected to be no more than 0.09 m after 365 days. A hypothetical scenario was considered by PDP whereby 0.09 m of drawdown was applied to the historical groundwater level hydrograph for monitoring well R27/0122. This assessment indicates that the stand-by level would have been breached on five occasions since 2001. However, the alert level would not have been triggered. PDP say this drawdown effect is local and will not increase the risk of saline intrusion in the Waiwhetu aquifer. Did PDP check the groundwater level in Somes Island monitoring bore R27/1171 to see if the hydraulic gradient was reversed for the five breached occasions? PDP conclude by saying it is possible that the proposed abstraction could occasionally contribute to trigger levels being breached.

PDP state that this assessment is conservative, because Unilever were pumping during this time, albeit at a reduced rate, and therefore some drawdown at R27/0122 was already occurring. This means the same drawdown is counted twice.

5. Unilever is just 4 % of the maximum drawdown expected from the Waterloo wellfield. This is an insignificant amount relative to water level fluctuations, which are primarily influenced by GWRC bulk supply abstraction and recharge.

6. PDP state 'Figure 4 shows a graph of Unilever abstraction data, together with groundwater levels in R27/0122, and monthly rainfall. This figure shows that there is no obvious recovery in groundwater levels in the monitoring well in response to the decreasing rate of abstraction through time.'

This appears to be true however from 2001, when only the Waterloo Borefield was operated, the Unilever pump rate decreased from 750 m<sup>3</sup>/day. This is significantly lower pumping rate than the proposed pumping rate of 2543 m<sup>3</sup>/day and I don't believe you can use Fig 4 to show evidence the Unilever bore has no effect on R27/0122

PDP use Figures 5 and 6 to compare daily Unilever abstractions to groundwater levels in R27/0122 during the first and second halves of 1996, when abstraction from the Unilever site was at its highest (1383  $m^3$ /day). The axis on both graphs are mis-labelled as monthly abstraction when they are actually meant to be daily abstraction. The daily abstraction values, when converted to monthly values, do not reconcile with monthly abstraction values and trends presented for 1996 in Figure 4. PDP again state there are no obvious correlation between decreases in groundwater level and increases in pumping rate, implying that the effect of pumping from the Unilever site on R27/0122 is minimal. This does appear to be the case.

7. Figure 7: I definitely agree with PDP that the Waterloo Borefield abstraction data from Jan-June 2014 does show a distinct relationship where increasing abstraction caused decreasing groundwater levels in R27/0122. Curious that PDP say Waterloo Borefield abstraction levels reach up to 99,710 m<sup>3</sup>/day. The highest rate seen in Figure 7 is ~78,000 m<sup>3</sup>/day.

8. Figure 9 is interesting. PDP say pumping at Unilever decreased significantly after March 1978 (as seen in Figure 8). PDP say that between 1971 and 1978 pumping was from Gear Island only and together with Unilever pumping at rates mostly between 2000 and up to 4000 m3/day there was considerable drawdown at R27/0122. The stand-by, intrusion alert and intrusion minimum level of 2.0m amsl were breached on a number of occasions. PDP go on to say that when abstraction was significantly decreased in Unilever bore in March 1978 they would expect to see a recovery in groundwater pressures in R27/0122 which they say doesn't occur.

I disagree, the groundwater pressures do recover between 1978 and 1981 with Unilever's decreasing take. The stand-by level was breeched just once in this period of time and that was a particularly dry year (also we don't know if the Waterloo Borefield increased their pumping rate). After 1981 and the move from Gear Island to Waterloo Borefield groundwater pressures in R27/0122 continued to recover. It would have been helpful if the Waterloo Borefield abstraction data was also on this graph. I have only seen Waterloo Borefield abstraction data for Jan-June 2014 in this EIS report.

PDP conclude that drawdown effects should be greater when Gear Island and Unilever were operating at their highest pumping rates, than when Unilever and Waterloo bores are pumped. I agree.

9. PDP mention on page 13 of the EIS that small reversals in hydraulic gradient occurred 23 times (max head difference of -0.11m). They say these are isolated and well correlated with an increase in bulk water supply abstraction which caused the groundwater levels to decrease abruptly .

10. There will be less than minor stream depletion effects due to the high Waiwhetu aquifer transmissivities and 25-30m of Petone Marine Bed aquitard overlying the Waiwhetu aquifer.

11. Could a correlation be made between the Unilever pumping bores abstraction rate and groundwater pressure head, and bore R27/0122 trigger levels of 2.5m amsl, 2.3m asml and 2.0m amsl? Maybe Mark could work this out using the Hutt Groundwater Model?? Or should we ask PDP to do this? This may require PDP to undertake pump tests on the abstraction bores. I am unsure how this could be done given the Waterloo Borefield could breach the trigger levels without any input by Unilever (Waterloo Borefield abstractions seem to masks drawdown effects by the Unilever bore(s)).

If it can be done, then I suggest GWRC use these groundwater pressure head 'trigger levels 'in the Unilever bore(s) as part of the consent condition

12. PDP say if the consent conditions are tight then 35 years should be okay, especially if the Hutt Groundwater Model might not be looked at again for a similar period of time. I presume the Hutt Groundwater Model is a Class 3 model as outlined by *Australian groundwater modelling guidelines*, Waterlines report, National Water Commission, Canberra (Barnett et al, 2012)? Is it likely the Hutt Groundwater Model will be looked at again within 35 years?

13. With reference to PDP's statement 'small, isolated reversals in the hydraulic gradients occur in response to abrupt increases in abstraction from GWRC's Waterloo wellfield. Two of the last three reversals have been caused by an increase in abstraction from the Waterloo wellfield above GWRC's consented volume.' Were there any

changes in the EC levels? Have there ever been any changes seen in EC levels at the monitoring bore R27/0122?

If you have any further questions or clarifications just drop me a line or give me a call.

Kind regards, Andrea.

On Wed, Jul 22, 2015 at 11:00 AM, Andrea Broughton

Hi Kirsty

PDP have taken on board Mark's comments and have presented their drawdown calculations at saline intrusion monitoring bore R27/0122, that being 0.09m which is based on conservative aquifer values (as well as other resource users i.e. Shandon Golf Club). In order to be conservative, PDP have used the values of 28,000 m2/day, and 6.4 x 10-4 for the drawdown assessments. They say these values have been derived from the calibrated hydraulic parameters used in the most recent Hutt Aquifer Model (HAM3) numerical model developed for GWRC by Gyopari (2014). Calibrated values for the Upper Waiwhetu aquifer were 1400 m/day and 3.2 x 10-5 m-1 for hydraulic conductivity and specific storage, respectively. Using the most conservative (smallest) thickness of the Upper Waiwhetu aquifer of 20 m results gives values of 28,000 m2/day, and 6.4 x 10-4 for the transmissivity and storativity respectively.

wrote:

PDP show hydrographs indicating fluctuations in water level in the monitoring wells have been controlled by GWRC bulk water supply abstraction and say these mask any effect of abstraction by Unilever. It is expected that this will continue, and drawdown in the closest saline intrusion monitoring well, R27/0122, as a result of the proposed take is not expected to exceed 0.09 m (calculated using Theiss equation. I calculated the same value using Jacobs equation. I calculated if they pump non-stop for 35 years the drawdown will only be 0.12m. This is unrealistic because the pumping bores will stop for holidays which I would allow the aquifer to recover but to pre-pumping levels).

Abstraction at the rate of 2,543 m3/day from the Unilever site could cause the existing stand-by level of 2.5 m amsl to be breached more regularly, although no significant increase in risk of saline intrusion would actually occur.

With respect to....' GWRC should consider saline intrusion mitigation conditions consistent with those applied to the bulk water consents – but updated to reflect the recent saline intrusion mitigation recommendations provided in the HAM3 study. PDP suggest 'GWRC consider decreasing the stand-by level at R27/0122 to 2.45m amsl. This would prevent the local effect from this take from influencing groundwater abstraction elsewhere in the Lower Hutt GMZ, and would not increase the risk of saline intrusion in the Waiwhetu aquifer.'

I think they maybe correct on this last point but I think that depends on the level of uncertainty around the 2.5m amsl? Three factors have to occur before groundwater takes are ramp down, that being, water level and EC in saline intrusion monitoring bores, and hydraulic gradient in monitoring well pairs. So we are not relying heavily on the 2.5m amsl trigger level and it has been breeched plenty of times without there being a reversal in hydraulic gradient and increases in EC levels. It is therefore really the inconvenience to all involved when the stand-by level of 2.5m is breeched.

Analysis by PDP 'shows that small, isolated reversals in the hydraulic gradients occur in response to abrupt increases in abstraction from GWRC's Waterloo wellfield. Two of the last three reversals have been caused by an increase in abstraction from the Waterloo wellfield above GWRC's consented volume.' I understand there were no changes in the EC levels? Recent groundwater flow modelling commissioned by GWRC suggests that the sustainable groundwater abstraction for this GMZ is 36.5 x 106 m3/year (Gyopari, 2014).Were these abstractions from Waterloo above the revised allocation level? PDP propose that a 7-day mean hydraulic gradient is used between monitoring wells R27/0122 and R27/1171 in the monitoring framework. They say this will prevent small, isolated reversals caused by abstraction from the Waterloo wellfield from disrupting groundwater users in the Lower Hutt groundwater management zone. Please could you ask Mark what he thinks about this suggestion?

PDP suggest 'to be consistent with the proposed saline intrusion management framework, a series of conditions are applied to the proposed abstraction. These conditions would involve progressive reduction in pumping from the Applicant's bores as the level of risk increases. Given current conditions, these measures will be sufficient to protect against the risk of saline intrusion.' I agree with this idea but think we need to co-relate the pressure level in monitoring bore R27/0122 wrt the actual groundwater pressure head in the ex Unilever pumping bore (s) at known pumping rates. I would think a bore pump test is required to determine this so these rates are meaningful and useful. Does Mark agree?

Effects on neighbouring groundwater bores and stream depletion will be minimal, owing to the relatively high transmissivity of the Waiwhetu aquifer and the protection afforded by the overlying ~30m Petone Marine Beds. Drawdown at Shandon Golf Course is approximately 0.08m (i got 0.09m).

I need to fly now but on my return I will go through HAM2 report with a view to thinking about consent conditions. However, in the meantime if you could run the above by Mark I would appreciate it.

Cheers, Andrea

On Wed, Jul 22, 2015 at 10:11 AM, Andrea Broughton wrote:

Hi Kirsty

I was going to say we need to talk to Mark, as he has set the limits for the Hutt Groundwater Zone. I looked on the application to see if PDP had communications with Mark, but it only said you and Jeremy, which is why I was going to suggest discussing with Mark.

PDP have made a suggestion for conditions so I will check against Mark's suggestions. So hold off talking to Mark until I look at it all.

Cheers, Andrea

On 22/07/2015 9:57 AM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I asked Mark Gyopari to provide some advice about the type of assessment we would require in this application – I've copied his comments below. These comments were passed on to the applicant prior to them preparing the application. Have all these points been covered off in the PDP report? If not, we can go back to them and ask for it. Maybe we need to have a chat with Mark?

Hi Kirsty,

Regarding the Unilever pre-application advice:

1. I do not think that it is necessary to undertake any additional physical bore testing or fieldwork to support this consent renewal. The Waiwhetu Aquifer in this area is very well characterised.

2. It may be worth the Applicant undertaking basic drawdown assessments using updated aquifer parameters (derived from the 2104 HAM3 modelling study) and anticipated maximum daily pumping rates over a realistic duration. We are particularly interested in the drawdown effect on the McEwan Park saline intrusion monitoring well and how this might impact on resource availability (including public water supply) during prolonged stressed (drought) periods when aquifer levels approach saline intrusion triggers .

3. Water use monitoring provided by Unilever (2012-2015) shows that actual water use has been considerably less than the consented quantity. The monitoring data show that the 7-day usage has not exceed about 5 % of the allocated amount (17,800m<sup>3</sup>). In general, over the last 3 years, monthly usage has been at most 5-6% of the allocated monthly volume (71,200m<sup>3</sup>) - the highest monthly use being about 4,000m<sup>3</sup> for May 2012. The monthly use was consistently less than 2,000m<sup>3</sup> in 2014 (less than 3% of the allocation). Water use monitoring data therefore suggests that the current water allocation significantly exceeds the Applicants requirements. Given the very high value of this resource for public water supply, clarification and justification of the volume of water sought is required. (

4. GWRC should consider saline intrusion mitigation conditions consistent with those applied to the bulk water consents – but updated to reflect the recent saline intrusion mitigation recommendations provided in the HAM3 study.

Regards

Mark

Dr Mark Gyopari

Earth in Mind Limited

From: Andrea Broughton [mailton]
Sent: Wednesday, 22 July 2015 9:27 a.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

I have now finished reading through PDPs EIS and PPG application with a fine tooth comb. I have a number of comments to make but I have a full day today and might not get a chance to sit at my desk. I will get comments to you by tomorrow.

In the meantime, I am concerned at the lack of bore data. Firstly there are three bores. Am I right in thinking this consent covers only the two bores located right next to each other? There have been no pump tests and there are no borelogs, although I am relying on a GWRC Gear Island bore on the property, and no management plan of how the three bores are really going to be used. If I am going to suggest conditions on PPG consent I would think it best to base it around water pressure in the bore relative to water pressure in the saline monitoring bore R27:0122. I can't do this without understanding drawdown vs abstraction rate in the bores. I will expand on this in my comments later today/tomorrow.

For anyone else I would be asking for a pump test, these folk are no exception. I know there are plenty of T and S values from Mark Gs work but we would still expect a 24 hour pump test wouldn't we?

Cheers, Andrea

On 20/07/2015 2:52 PM, "Andrea Broughton" wrote:

Hi Kirsty

Thanks for your email. Unfortunately, I just missed your call earlier.

I am reading through PDP report and will get back to you tomorrow if I require any further information.

Cheers,

Andrea

On Mon, Jul 20, 2015 at 2:27 PM, Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

Thanks for looking at this one, my list of questions for your assessment are below:

• Is the application, in particular the PDP report, fit for purpose? Are there information gaps or areas that need further clarification to fully understand the effects of the proposed water take?

• The Waiwhetu Aquifer is a significant resource in terms of providing water for public water supply. Wellington Water hold consents to take water for public water supply from the aquifer and have expressed an interest in this application (although a decision on affected persons has not yet been made). Do you agree with the assessment of effects on the bulk water supply abstraction? in particular, during periods of high water demand both bulk water and the applicant will likely be drawing their full allocation, what risks are there in terms of the aquifer pressure dropping, saline intrusion and the ability of bulk water to be able to continue to abstract water for public water supply during these periods. Should we place restrictions on this applicants consent to protect the ability for bulk water to abstract water during periods of high water demand? The current consent includes a condition (condition 4 of WGN070193 [25890] in the attachments to the application) which required the consent holder to comply with abstraction limits directed by Wellington Regional Council. We would prefer the condition to be more specific about restrictions (i.e. reduction or cease take when aquifer pressure gets to certain levels) to avoid the consent holder trying to counter argue a direction by WRC, do you have any suggestions for appropriate restrictions.

• Do you agree with the applicants assessment of effects on other nearby groundwater users, including the Shandon Golf Club?

<sup>•</sup> Do you agree with the assessment of effects on the Hutt River?

• Water permits are generally granted for a period of 10 years. The applicant has sought a consent duration of 35 years, do you have any comments on consent duration? Are there any uncertainties about effects of the abstraction that would warrant a consent of less than 35 years?

• Any other comments

We haven't reviewed any work by Chris Woodhouse before so would be interested in what you think about his assessment. Give me a call if you have any questions or need any further info.

Thanks

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Shed 39, 2 Fryatt Quay, Pipitea, Wellington

PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** <u>www.gw.govt.nz</u>

From: Andrea Broughton [mailton
Sent: Friday, 17 July 2015 12:23 p.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

I hope my son was polite!

I do have time and I will do a quick skip read through the document over weekend. I will look forward to hearing from you on Monday. I will be available after 11am.

Cheers, Andrea

On 17/07/2015 12:15 PM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I spoke with your son this morning who said you were out so I thought I would email you and will give you a call on Monday to discuss. I'm processing an application for the renewal of a water take from the Lower Hutt Groundwater Zone (old Unilever site). They are applying for the same abstraction limits (up to 929,000m3/year) but have applied for a long term consent and Wellington Water have indicated that they have an interest in the application (although I'm not sure they will be an affected party). The applicant has engaged Chris Woodhouse from PDP to undertake an assessment of effects on Saline intrusion risk, drawdown effects on neighbouring takes, stream depletion effects and subsistence. Do you have capacity to undertake a review of this assessment over the next couple of weeks? If you do, I'll fire through my list of questions on Monday.

I've attached a copy of the application so you can see the size of the report (sorry it's a large document!).

Have a good weekend

#### Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

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From: Sent:	Kirsty van Reenen Friday, 4 September 2015 1:57 PM
То:	
Subject:	Application for Resource Consent - PrimeProperty Group Limited - 486 Jackson Street, Petone, Lower Hutt
Attachments:	WGN_DOCS-#1507504-v1- Application_for_Resource_ConsentPrimeProperty_Group_Limited486 _Jackson_StreetPetoneLower_Hutt.PDF

Hi Emma,

Attached is the consent application (sorry its so large).

Regards Kirsty

From:	lan Leary
Sent:	Friday, 2 October 2015 2:53 PM
То:	Kirsty van Reenen
Subject:	RE: Prime Property WGN160011 Review of Further Information
Follow Up Flag:	Follow up
Flag Status:	Completed

Kirsty,

I have now discussed this with my client.

#### The Transfer of the Permit

PPG have requested that the existing permit is transferred from Unilever to PPG as soon as practicable. I cannot recall your advice as to whether any other confirmation/action is required on behalf of PPG to achieve this outcome. Could you advise ASAP if there is anything else required.

#### **Review Clause**

On the basis that Water Permits are typically issued on a 10 year basis, PPG accept that a section 128 Review at the 10 year period and any subsequent 5 year period, of the abstraction rate and volume authorised by the existing permit, can be undertaken. The review would be based on actual usage. If PPG are not using their full allocation over an extended period and there is a demonstrated demand for the water, then a review would be reasonable.

PPG have requested however, that if PPG can demonstrate that the usage (within the existing allocation) is about to increase, that GWRC will not exercise the review in that particular review period.

This would in our view, be a reasonable position for GWRC and PPG to reach to allow the full 35 year permit period to be granted.

PPG will have security for the initial 10 year period and then be subject to a review every 5 years.

We would like to see the wording of the review condition before accepting it, however there is an approval in principle.

Regards

Ian Leary Director - Survey and Planning SpencerHolmes Limited

PO Box 588, Wellington 6140 Level 6, 8 Willis Street, Wellington 6011

www.spencerholmes.co.nz

**P** 04-472-2261 **F** 

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From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz]
Sent: Monday, 28 September 2015 5:01 p.m.
To: Ian Leary
Subject: RE: Prime Property WGN160011 Review of Further Information

#### Hi lan,

Chris has answered all the questions on the PDP report. All I'm waiting for is:

- The transfer of the consent
- Confirmation as to whether the applicant would agree to a specific review condition which would enable GWRC to review the abstraction limits on the consent (rate of take and allocation).

Kind Regards Kirsty

From: Chris Woodhouse Sent: Wednesday, 23 September 2015 5:31 p.m. To: Kirsty van Reenen Cc: Ian Leary Subject: Prime Property WGN160011 Review of Further Information

Hi Kirsty,

We have been requested by Ian Leary (copied into this email) to respond to your questions, dated 7<sup>th</sup> September 2015, regarding the Unilever site groundwater take renewal.

Further to our telephone conversation, please find our responses to your questions outlined below:

1. Depth of bores: the further information states that the bore logs and bore construction details have been lost. However, we do need to know the screened interval of the bores to confirm which aquifer the bores are abstracting from. In the Proposed Natural Resources Plan the Waiwhetu Aquifer is divided into several 'groundwater management units' and different allocation limits and minimum low/water level restrictions apply to each depending on depth, connectivity with the Hutt River etc. Can PDP undertake geophysical wire line logging investigations to determine the bore construction details and any geological data that can be gathered from the steel cased borehole? GWRC cannot give consent to abstract groundwater where we don't know exactly which aquifer it is drawing from.

Based on the available information for the bores installed on the Unilever site, PDP consider that the bores take groundwater from a depth of > 15 m. This groundwater would be classed as "Category B" groundwater in accordance with the Proposed Natural Resources Plan. We understand that GWRC have reviewed the available information, and have reached the same conclusion. Further investigations into the depth and screened interval of the bores will therefore not be required.

2. Can you clarify whether the 'back-up bore' will actually be a backup bore as implied in the further information? If the new tenants want to use the full amount of water sought wouldn't both bores need to be running at the max pumping rate to meet this demand? If one bore is to be a backup bore this implies that not all the water sought will be required.

PDP understand that the "back-up bore" will be used as a back-up however, this should be confirmed by the Applicant. Based on information supplied by Unilever, the pumps installed in each bore are capable of abstracting at a volume greater than that requested. Therefore, both bores will not be required to be operating simultaneously during operation.

3. Is it possible for PDP to determine what the pump rate and correlating pressure head (or water level) would be in the main bore for the three trigger levels in GWRC monitoring well R27/0122 (McEwan Park), namely 2.5m amsl, 2.3m amsl and 2.0m amsl?

This calculation would be difficult to perform, because the groundwater system is dynamic in this area, and the primary influences on groundwater levels in the McEwan Park bore are abstraction from the Waterloo borefield, and climatic effects (as was discussed in the original application). An analytical calculation of this kind, would therefore require numerous assumptions and be unreliable. However, the installed pumps are both surface mounted, and if water levels decrease to around 8 m below ground level, the pumps will cease to function. Data from Unilever indicates that abstraction was much greater than the requested rate in the past (see original application) and the bores continued to function. This implies that groundwater levels were above 8 m below ground level. It can therefore be inferred that with the proposed abstraction, groundwater levels would continue to not decrease below this point.

If you have any further questions regarding the above, please do not hesitate to contact me.

Thanks,

Chris



DDI - Mobile - Office - +64 4 471 4130 | Fax - +64 4 471 4131 Map - <u>Wellington Office</u> | Web - <u>www.pdp.co.nz</u>

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From:	Mark Gyopari
Sent:	Thursday, 19 November 2015 10:26 AM
То:	Kirsty van Reenen
Subject:	Re: Unilever consent
Follow Up Flag:	Follow up
Flag Status:	Completed

hi Kirsty - that aquifer has been studied and modelled to death! So if there was an aquifer whereby we were as sure as we can be around connectivity, the waiwhetu is it. But you are right in that surface water availability is the control with this aquifer.

>

Sent from my iPhone

On 18 Nov 2015, at 17:04, Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

#### Hi Mark,

Can you please confirm something for me. Under the proposed plan the allocation limit for the aquifer has increased and category B/C groundwater is 91% allocated. Mike said that any Category B take would include a portion of directly connected groundwater and a portion of not directly connected groundwater so this effectively means the 9% of water that looks like it's not allocated is actually not available. Could it be possible for someone to do an assessment and demonstrate that some or all of the 9% of unallocated water is not directly connected? i.e. is there any way we would grant consent to abstract the extra water or is this not possible because we know its connected to the river?

Thanks Kirsty

From: Mark Gyopari [ Sent: Thursday, 12 November 2015 11:22 a.m. To: Mike Thompson; Murray McLea; Kirsty van Reenen Cc: Doug Mzila Subject: RE: Unilever consent

I also seem the remember that Wellington Water have been in negotiation with the applicant – not sure if this is relevant to the consent processing however. Essentially this take could severely restrict the public supply take during periods of very low aquifer level as its drawdown impacts the McEwan Park saline intrusion monitoring site. Not sure what WW had agreed. Cheers Mark

From: Mike Thompson [mailto:Mike.Thompson@gw.govt.nz] Sent: Thursday, 12 November 2015 11:17 a.m. To: Murray McLea <<u>Murray.McLea@gw.govt.nz</u>>; Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> Cc: Mark Gyopari Mzila <<u>Doug.Mzila@gw.govt.nz</u>> Subject: RE: Unilever consent Oh yes, thanks Murray you're right...we'd only consider restricting this take by 50%, not full cease take.

I think that restriction would be justified in this case in that it would only apply in the most extreme circumstances. Cheers mike

From: Murray McLea
Sent: Thursday, 12 November 2015 10:55 a.m.
To: Mike Thompson; Kirsty van Reenen
Cc: Mark Gyopari ( Doug Mzila
Subject: RE: Unilever consent

The proposed Plan indicates we are able to reduce groundwater takes below minimum flows according to policies and matters of discretion in the relevant restricted discretionary activity rule (so long as reduction can be justified).

However the policy (P115(d)) that category A groundwater is reduced by 50% of the amount consented above minimum flow may limit our ability to require full cessation of groundwater takes below minimum flow (for any groundwater category).

Murray

From: Mike Thompson
Sent: Thursday, 12 November 2015 9:43 a.m.
To: Kirsty van Reenen
Cc: Murray McLea; Mark Gyopari Doug Mzila
Subject: RE: Unilever consent

Hi Kirsty

I think we established in our chat that low flow conditions to manage any depletion effects associated with the Hutt River at its nearest point to Uniliever would be unnecessary...because the river is tidal in this area.

However, the work Mark G has done with his HAM model also suggests that all takes in the Waiwhetu Aquifer (notwithstanding the 5L/s threshold we apply to exclude very minor takes) are contributing to depletion of the Hutt River in the recharge reach (downstream of Taita Gorge). PDP have recognised this connection in the AEE. Therefore I think it would be prudent to apply the minimum flow restriction criteria in the PNRP (ie, cease take when Hutt River at Birchville falls below 1200 L/s). PDP have suggested that because the Unilever take is very minor compared to the Bulk Water take no regulation is needed. This is a bit short-sighted I think. Our approach under extreme low river flows should be for all non-essential depleting takes (eg, Unilever) to stop and 'essential supplies' to be exercising all possible reductions. At the end of the day, we actually may not have any discretion available to us to <u>not</u> regulate given the PNRP provisions– Murray?

I'd note that the river very rarely gets into a state where regulation might be needed (the minimum flow has not been reached since the 1970s and that may have been due to a more excessive groundwater pumping regime back then). So application of this low flow restriction criteria would have little impact in practice to the Unilever security of supply. Although if minimum flows are revised in the future the Unilever take would obviously be affected.

Murray/Mark/Doug - not sure if you have anything to add/a different view?

Cheers

From: Kirsty van ReenenSent: Wednesday, 4 November 2015 2:54 p.m.To: Mike ThompsonSubject: Unilever consent

Hi Mike,

We had a chat a while ago about whether the renewed Unilever water take from the Waiwhetu Aquifer should be subject to low flow conditions given the connectivity to the Hutt River. Have you had any more thoughts about this?

Thanks

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** www.gw.govt.nz

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From:	lan Leary
Sent:	Wednesday, 27 January 2016 10:59 AM
То:	Kirsty van Reenen
Cc:	Andrew monahan
Subject:	RE: Prime Properties/Unilever - Waiwhetu Aquifer allocation status and PNRP
Follow Up Flag:	Follow up
Flag Status:	Completed

Kirsty,

No to PPG. I am away at the moment.

Andrew, can we get Unilever to consent to the transfer please.

Regards

Ian Leary Director - Survey and Planning SpencerHolmes Limited

PO Box 588, Wellington 6140 Level 6, 8 Willis Street, Wellington 6011

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P 04-472-2261 F 04-471-2372

From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz]
Sent: Wednesday, 27 January 2016 10:57 a.m.
To: Ian Leary
Subject: RE: Prime Properties/Unilever - Waiwhetu Aquifer allocation status and PNRP

Hi lan, Do you still want this consent to be issued to Unilever?

Kirsty

Kirsty,
PPG have received advice from PDP that expresses some concern of condition 8 and that the allocation of the resource would be fairly 'arbitrary' in that circumstance.

The presumption of PPG is that the allocation would be reasonable and responsible and that GWRC would act in the benefit of all consent holders and therefore the condition is accepted.

PPG will accept the GWRC position of an 18 year consent.

However, we would prefer the standard lapsing period of 5 years. While I am not aware of any other provisions in the RMA relating to lapsing of Water Permits, s125 seems to imply it is reasonable for them to be 5 years.

We look forward to receiving the consent ASAP.

Regards

Ian Leary Director - Survey and Planning SpencerHolmes Limited

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From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz]
Sent: Thursday, 10 December 2015 4:17 p.m.
To: Ian Leary
Subject: Prime Properties/Unilever - Waiwhetu Aquifer allocation status and PNRP

Hi lan,

Following on from your conversation with Al, I've explained below the allocation status of the Waiwhetu Aquifer, timeframe for the Whaitua committee and the relevant policies in the Proposed Natural Resources Plan (PNRP) which informed our decision for an 18 year consent duration.

Overall, our understanding of the Hutt Valley's water resource is more refined today that it was in the 1990's – when the science from the operative plan was developed. The current plans limits do not express any connectivity between surface and groundwater – even though there is, and always has been. So the model today, while more complicated, is more accurate. I will attempt to explain it below.

### Allocation framework explanation

The proposed water take is located within the **Lower Hutt Category B** (from 15m and deeper) Groundwater Management Unit under the PNRP – as shown on the map below.



### Figure 8.2: Te Awa Kairangi/Hutt River and Lower Hutt groundwater in Tables 8.2 and 8.3

Category B Groundwater is separated into water that is directly connected and not directly connected to the Hutt River in the PNRP. This is set out in tables 8.2 and 8.3 of the PNRP as follows:

Catchment management unit for the Hutt River Catchment	Allocation amount	Allocation status
Hutt River and tributaries, category A groundwater and category B groundwater (directly connected)	2,140L/s	100% allocated
Lower Hutt category B groundwater (not directly connected)	36,500,000 [Waiwhetu Aquifer and Taita Alluvium]	91% allocated

The PNRP doesn't explicitly states when a category B take is directly connected or not directly connected (i.e. which allocation amount in the table above it comes out of) but schedule P of the PNRP indicates that a weekly average take of more than 5L/s of category B groundwater is regarded as having a proportion of

directly connected groundwater. So the proposed Unilever/Prime Property take (or any water take > 5L/s from category B) is both directly connected and not directly (I understand it's close to 50/50 from each).

As you can see from the table above, the category A and category B (directly connected) water is 100% allocated.

The amount of category B **not directly** connected groundwater has increased under the PNRP and based on current consented takes is 91% allocated (this includes the proportion of the consented Unilever take that is not directly connected). However, because category B (directly connected) groundwater is fully allocated and any take >51/s includes a portion of directly **and** not directly connected water the additional water is effectively 'locked up'.

Any change to this regime will be considered further when interim allocation limits are finalised through the Wellington Harbour and Hutt Valley whaitua process. This is scheduled to be completed in 2018. This document has further explanation on the background to the allocation numbers in the PNRP <a href="http://www.gw.govt.nz/assets/Plans--Publications/Regional-Plan-Review/Proposed-Plan/ConjunctivewatermanagementrecommendationsfortheHuttValley.PDF">http://www.gw.govt.nz/assets/Plans--Publications/Regional-Plan-Review/Proposed-Plan/ConjunctivewatermanagementrecommendationsfortheHuttValley.PDF</a>

### Expiry date alignment policy

Policy 6 of the PNRP states that resource consents may be granted with a common expiry date within a whaitua catchment if the affected resource is fully allocated or over allocated. While there is additional allocation in the PNRP for category B not directly connected groundwater, it is technically not available due to its associated with directly connected groundwater. The water takes for bulk water supply from the Waiwhetu Aquifer expire in August 2033 so it is proposed to make the expiry date on the Unilever/Prime Property consent the same. This would mean a consent term of 18 years.

Give me a call if you want to discuss this further/want further explanation. Otherwise I'll wait to hear back from you about whether Prime Property are comfortable with the 18 year consent duration.

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz

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From: Sent: To: Cc: Subject:	Murray McLea Thursday, 12 November 2015 10:55 AM Mike Thompson; Kirsty van Reenen Mark Gyopari <b>Herrichten (1999)</b> ; Doug Mzila RE: Unilever consent	
Follow Up Flag: Flag Status:	Follow up Completed	

The proposed Plan indicates we are able to reduce groundwater takes below minimum flows according to policies and matters of discretion in the relevant restricted discretionary activity rule (so long as reduction can be justified).

However the policy (P115(d)) that category A groundwater is reduced by 50% of the amount consented above minimum flow may limit our ability to require full cessation of groundwater takes below minimum flow (for any groundwater category).

### Murray

From: Mike Thompson
Sent: Thursday, 12 November 2015 9:43 a.m.
To: Kirsty van Reenen
Cc: Murray McLea; Mark Gyopari Doug Mzila
Subject: RE: Unilever consent

### Hi Kirsty

I think we established in our chat that low flow conditions to manage any depletion effects associated with the Hutt River at its nearest point to Uniliever would be unnecessary...because the river is tidal in this area.

However, the work Mark G has done with his HAM model also suggests that all takes in the Waiwhetu Aquifer (notwithstanding the 5L/s threshold we apply to exclude very minor takes) are contributing to depletion of the Hutt River in the recharge reach (downstream of Taita Gorge). PDP have recognised this connection in the AEE. Therefore I think it would be prudent to apply the minimum flow restriction criteria in the PNRP (ie, cease take when Hutt River at Birchville falls below 1200 L/s). PDP have suggested that because the Unilever take is very minor compared to the Bulk Water take no regulation is needed. This is a bit short-sighted I think. Our approach under extreme low river flows should be for all non-essential depleting takes (eg, Unilever) to stop and 'essential supplies' to be exercising all possible reductions. At the end of the day, we actually may not have any discretion available to us to not regulate given the PNRP provisions– Murray?

I'd note that the river very rarely gets into a state where regulation might be needed (the minimum flow has not been reached since the 1970s and that may have been due to a more excessive groundwater pumping regime back then). So application of this low flow restriction criteria would have little impact in practice to the Unilever security of supply. Although if minimum flows are revised in the future the Unilever take would obviously be affected.

Murray/Mark/Doug - not sure if you have anything to add/a different view?

Cheers Mike

**From:** Kirsty van Reenen **Sent:** Wednesday, 4 November 2015 2:54 p.m. To: Mike Thompson Subject: Unilever consent

Hi Mike,

We had a chat a while ago about whether the renewed Unilever water take from the Waiwhetu Aquifer should be subject to low flow conditions given the connectivity to the Hutt River. Have you had any more thoughts about this?

Thanks

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz

From:	lan Leary
Sent:	Tuesday, 19 January 2016 8:05 AM
То:	Kirsty van Reenen
Subject:	RE: Prime Properties/Unilever - Waiwhetu Aquifer allocation status and PNRP
Follow Up Flag:	Follow up
Flag Status:	Completed

Kirsty,

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Ian Leary Director - Survey and Planning SpencerHolmes Limited

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From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz]
Sent: Thursday, 10 December 2015 4:17 p.m.
To: Ian Leary
Subject: Prime Properties/Unilever - Waiwhetu Aquifer allocation status and PNRP

Hi lan,

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Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** www.gw.govt.nz

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otherwise stated, any views or opinions expressed are solely those of the author, and do not represent those of the organisation.

From:	Alistair Cross
Sent:	Tuesday, 17 November 2015 2:24 PM
To:	Jeremy Rusbatch; Kirsty van Reenen
Subject:	Fwd: Unilever draft consent condition WGN160011 16 November 2015.docx
Attachments:	Draft consent condition WGN160011 16 November 2015.docx; ATT00001.htm
Follow Up Flag:	Follow up
Flag Status:	Completed

FYI guys

Al

Al Cross Manager | Environmental Regulation Greater Wellington Regional Council P: 04 830 4209 Cell: 027 201 3571

Sent from my iPad

Begin forwarded message:

From: lan Leary < Date: 17 November 2015 1:56:32 pm NZDT To: "alistair.cross@gw.govt.nz" <alistair.cross@gw.govt.nz> Subject: FW: Unilever draft consent condition WGN160011 16 November 2015.docx

Al,

Further to our conversation this morning, I forward the email sent to me from Kirsty yesterday regarding the draft conditions. The main issue is on the term of the permit. The term sought was 35 years. As you can see below, despite seeking a 35 year permit, we have been advised that Council will only grant it for 10 years.

The permit is currently held by Unilever who occupy the site on Jackson St Petone. This site has been bought by Prime Property Group. Settlement occurs next month. There is the complication that Unilever want the permit in their name until settlement is finalised, however it appears that we have worked around that and transfer will occur after settlement.

The primary issue we have is the term of the permit and the certainty needed to justify the necessary investment in the site. There is significant interest in the water for bottling/export. The indications I have been given is that investment in infrastructure proposed is around \$25million.

During the process, we have discussed with officers the issues of efficient allocation of water and concerns that Unilever has steadily reduced its take over recent years. The applicant has proposed a condition that would allow GWRC to reduce the take, should it not be used. This is effectively a sinking lid concept. The suggestion was that there is an initial 10 year permit and then a subsequent 5 yearly review where unused portions of the take could be subsequently re-allocated.

This was seen as a compromise which allowed investors to obtain certainty and allow for the substantial infrastructure investment necessary.

It is noted that the recent Proposed Natural Resources Plan extends the take limit for the aquifer and it is subsequently not considered over allocated.

We also note that the biggest user of the aquifer by some measure, Wellington Water has granted their written approval to the application.

We seek your review of the situation and GWRC officer's decision to grant the permit for only 10 years. We look forward to your earliest response.

Regards

### Ian Leary Director - Survey and Planning SpencerHolmes Limited

PO Box 588, Wellington 6140 Level 6, 8 Willis Street, Wellington 6011

www.spencerholmes.co.nz

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From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz]
Sent: Monday, 16 November 2015 3:17 p.m.
To: Ian Leary
Subject: Unilever draft consent condition WGN160011 16 November 2015.docx

Hi lan,

Attached are the draft consent conditions for the Unilever water take renewal.

It the moment I will be recommended a consent duration of 10 years. This is consistent with the duration for other water permits in the region. I longer consent duration would need to be justified.

Neil from Unilever will need to confirm in writing that he has read the consent application and consent conditions so that we can put Unilver as the consent holder.

Give me a call to discuss any of this once you have had a chance to consider these. The consent is due on the 25 Nov (next Wed). It takes a while for things to get through QA and word processing so if we haven't reached agreement by the end of Wed (18<sup>th</sup>) can you please agree to an extension of the timeframes under s372(a) of the RMA?

Kind Regards

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz ATTENTION: This correspondence is confidential and intended for the named recipient(s) only. If you are not the named recipient and receive this correspondence in error, you must not copy, distribute or take any action in reliance on it and you should delete it from your system and notify the sender immediately. Unless otherwise stated, any views or opinions expressed are solely those of the author, and do not represent those of the organisation.

### WGN160011 – Unilever draft conditions 16 November 2015

#### **General condition**

- The location, design, implementation and operation of the take shall be in general accordance with the consent application and its associated plans and documents lodged with the Wellington Regional Council on 15 July 2015 and further information received on:
  - 25<sup>th</sup> August 2015 (s92 response letter)
  - 23 September 2015 (email from Chris Woodhouse)

Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

Note: Any change from the location, design concepts and parameters, implementation and/or operation may require a new resource consent or a change of consent conditions pursuant to section 127 of the Resource Management Act 1991.

 This consent will lapse in three years on 25 November 2018 unless given effect to prior to that date.

#### Rate and point of take

 The combined rate at which water is taken from bores R27/1167 and R27/1168 at or about approximate map reference NZTM: 1758711.5433895 and NZTM 1758789.5433913, shall not exceed 927,158m<sup>3</sup>/year, at 2,540m<sup>3</sup>/day at a maximum pumping rate of 29.4 litres/second.

Note: This equates to 24 hours/day and 365 days/year based on the maximum pumping rate.

#### Water measuring device/system

- 4. The consent holder shall maintain water meters (water measuring devices) that measures all water authorised under this consent and meets the following requirements:
  - Sealed and tamper proof
  - Installed within 20 metres of the point of take unless an exception is granted by the Manager, Environmental Regulation, Wellington Regional Council, under section 10 of the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010
  - Measures cumulative water abstraction in m<sup>3</sup>
  - Measures instantaneous water abstraction in litres/second
  - Can measure the volume of water taken to within +/- 5% of the actual volume taken.
  - Resistant to corrosion and fogging

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- Capable of being fitted with an electronic datalogger, has a suitable output signal and has suitable data transfer ports
- Be installed in accordance with industry best practice based on the Water Measurement Accreditation Programme. Be installed and maintained by a suitably qualified person

The above requirements shall all be to the satisfaction of the Manager, Environmental Regulation.

5. The consent holder shall install a datalogger and telemetry unit on the water measuring device that is compatible with Wellington Regional Council's Water Use Data Management System 1 January 2016. The data logger and telemetry\_ unit shall as a minimum record date and time stamped cumulative meter readings at a minimum of 15 minute intervals.

#### Accuracy and verification of the water measuring device/system

6. The consent holder shall verify the accuracy of the water measuring device/system required under conditions 4 and 5 at least every five years and as directed by the Manager, Environmental Regulation, Wellington Regional Council for the duration of this consent to determine if the actual volume of water taken is within +/- 5%.

Any verification of the water measuring device/system under this condition must be performed by a suitably qualified person, and to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Within **one month** of any verification being undertaken on the water measuring device/system, the consent holder shall submit to the Manager, Environmental Regulation, Wellington Regional Council, a copy of the verification certificate/and or evidence documenting the calibration as completed by the person who undertook the verification.

Note 1: Verification of water measuring devices for any water take of 20 litres/second or more was required to be undertaken under the Resource Management (Measuring and Reporting of Water Take) Regulations 2010 by 30 June 2013. To ensure compliance verification must be undertaken as soon as possible.

Note 2: Direction from the Manager, Environmental Regulation, Wellington Regional Council to undertake additional verification may be given in the event reasonable grounds are established which highlight that the water measuring device/system may be inaccurate. Reasonable grounds includes (but is not limited to) the water measuring device/system not been installed to Irrigation New Zealand's best practice standards.

#### Keeping and supplying records

 The consent holder shall record cumulative water meter readings (in m<sup>3</sup>) of the water meter at a minimum interval of 15 minutes. These records shall be

ATTACHMENT DRAFT CONSENT CONDITIONS 17-NOV-2015

Commented [KvR1]: Ian – is this achievable?

submitted automatically to Wellington Regional Council's Water Use Data Management System for the duration of this consent.

### Preventing salt water intrusion

8. In the event that the pressure in the Waiwhetu Artesian Aquifer drops to an average, over a 24 hour period, of +2.3 metres above datum, as measured at the McEwan Park (site number 1428009) water level monitoring station, or any other official Wellington Regional Council water level monitoring station in the Petone and Seaview area, the consent holder shall comply with all abstraction restrictions and/or rostering as directed by the Manager, Environmental Regulation, Wellington Regional Council. This will include priority given to abstraction from the Waiwhetu Aquifer for public supply purposes.

#### Low flow conditions

 When the flow in the Hutt River at Birchville (at approximate map reference NZTM 1775574.5448016) falls below 1200 litres/second the combined maximum pumping rate from bores R27/1167 and R27/1168 shall not exceed 14.7L/s.

Note: The stream flow data for the Hutt River can be accessed at Wellington Regional Council's website (www.gw.govt.nz). It is the consent holder's responsibility to regularly check the website to ensure compliance with this condition.

### Abstraction system

 The bore head connections shall be designed and maintained so that water is not run to waste and contamination of the aquifer and backflow are prevented.

#### Monitoring

 If so requested by the Manager, Environmental Regulation, Wellington Regional Council, the consent holder shall make their bore available for the monitoring of water levels and water quality.

### Reporting on water use

12. The consent holder shall notify GWRC whenever there is a chage in the use of water abstracted under this consent.

Note: Notifications must be sent to <u>notifications@gw.govt.nz</u>. please include consent number WGN160011.

### **Review conditions**

 The Wellington Regional Council may review any or all conditions of this consent by giving notice of its intention to do so pursuant to section 128 of the

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Resource Management Act 1991, at any time within three months of the 30 June each year for the duration of this consent, for the purpose of:

- Reviewing the abstraction rate in Condition 3, taking into account the
  actual usage by the consent holder, for the purpose of ensuring that the
  water resource has been used efficiently with the objective of ensuring
  equitable allocation of the resource and/or
- Reviewing seasonal groundwater allocation requirements; and/or
- Dealing with any adverse effects 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
- Enabling consistency with the relevant Regional Plan(s); and/or
- To incorporate changes to any low flow restrictions for the Hutt River.

### Important notes relating to measuring and reporting of your water take:

- A suitably qualified person is an individual/company that is registered with the Water Measurement Accreditation Programme or can demonstrate an appropriate standard of installation or verification to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.
- 2. For water meter installation, where industry best practice guidelines differ from manufacturer's specifications, the more stringent standard applies, unless special circumstances apply to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council. Therefore verification of the water measuring device/system can only be achieved when the most stringent standard (either industry best practice or manufacturer's specifications) for installation has been achieved.
- 3. The annual take volume shall be assessed for the period 1 July to 30 June the following year.

#### **General notes:**

- This resource consent does not guarantee that quantity or quality of water will be maintained or available.
- b) Please contact the Wellington Regional Council, Environmental Regulation, if you plan to make any modifications to the bore, pump, or irrigation system. Any significant modifications may require you to apply for a change of consent conditions.
- c) A resource management charge, set in accordance with section 36(2) of the Resource Management Act 1991 shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring, and supervision of resource consents and for the carrying out of its functions under section 35 (duty to gather information, monitor, and keep records) of the Act.
- d) The Wellington Regional Council shall be entitled to recover from the consent holder the costs of any review, calculated in accordance with and limited to the

ATTACHMENT DRAFT CONSENT CONDITIONS 17-NOV-2015

Council's scale of charges in force and applicable at that time pursuant to section 36 of the Resource Management Act 1991.

e) In the event of undue interference with other bores/wells in the area and/or a long term sustained decline in groundwater levels becomes apparent through groundwater level monitoring undertaken in the aquifer where bores R27/1167 and R27/1168 are located, the consent holder may be requested to reduce or stop pumping as maybe directed by the Manager, Environmental Regulation, Wellington Regional Council. Undue interference is defined as drawdown in neighbouring bores/wells that was not evaluated at the time the resource consent was processed.

ATTACHMENT DRAFT CONSENT CONDITIONS 17-NOV-2015

From:	Kirsty van Reenen
Sent:	Tuesday, 13 October 2015 12:41 PM
То:	Doug Mzila; Mike Thompson
Cc:	Murray McLea
Subject:	WGN160011 Prime Properties renewal of Unilever Water Permit
Attachments:	Weighting guidance - water allocation.pdf

Hi Doug and Mike,

Thanks for looking into this one. Just a bit of background - Andrea has assessed this application for me and based on the PDP assessment and further information she considers the effects to be no more than minor (including stream depletion effects). What I need to work out is which category and therefore which 'pot' of allocation the water take will be from.

The bores are 30+ metres deep and Doug has confirmed they will be screened >15m in the Waiwhetu aquifer so are category B. In the Hutt Whaitua chapter there are separate allocation amounts for category B directly connected in Table 8.2 and Category B not directly connected in table 8.3. Looking at the weighting guidance sheets that were prepared (attached) it looks like Category B directly connected is 100% allocated and category B not directly connected 91% allocated. As this is a renewal the water is available to be 'reallocated' but we need to know and record whether it's from the directly connected or not directly connected category (or split between the 2?).

The application includes a technical report by PDP but this only includes a bit of narrative on stream depletion effects and it doesn't look like they did any modelling (contrary to what I thought). The application was submitted prior to the plan being notified so while I have to consider the new provisions it's probably not fair to ask the applicant to undertake an assessment in relation to connectivity to the river to figure out which category they fall under.

So my questions are:

- Which category, B directly connected or B not connected, does the take fall within?
- Given the connectivity to the Hutt, should there be any low flow conditions on the consent? Or is this not necessary given how far down the catchment it is?

Here are the links to the consent application including the PDP report.

Application for Resource Consent - PrimeProperty Group Limited - 486 Jackson Street, Petone, Lower Hutt [1507504].PDF

Here are the links to the further info they provided – although I don't think any of this is relevant

s92 Further info response - Prime Property Group Limited WGN160011 [1518604].MSG

Re Prime Properties WGN160011 - PDP response to further questions.msg

SAP code 335/160011/01

Thanks

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington



# Weighting water allocation provisions in the Regional Freshwater Plan & Proposed **Natural Resources Plan**

Guidance on the consideration water allocation from 1 August 2015

For more information, contact GWRC:

Wellington PO Box 11646

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Masterton PO Box 41

T 04 384 5708 T 06 378 2484 F 04 385 6960 F 06 378 2146 www.gw.gov1.nz www.gw.gov1

www.gw.govt.nz

August 2015

www.gw.govt.nz info@gw.govt.nz

### What is this document about?

This document provides guidance for decisions and advice concerning water allocation in the Wellington region. This is required as Greater Wellington Regional Council (GWRC) evaluates existing allocation provisions in the Regional Freshwater Plan (RFP) and new allocation provisions in the Proposed Natural Resources Plan (PNRP) which was publicly notified on 31 July 2015. This document does not discuss processing of resource consents for the same or lesser amount of water allocated to any particular consent.

### Re-evaluation of groundwater and surface water allocation

At present groundwater and surface water allocation for various catchments and groundwater management zones is specified in the RFP. Over the past few years GWRC has re-evaluated these groundwater and surface water allocation mechanisms. This has culminated in new water allocation provisions in the PNRP. There are a number of published technical documents that underpin the allocation provisions including:

- Kapitia Coast, Hutt, and Wairarapa Valley Groundwater Resource Investigations Framework for Conjunctive Water Management (various publications)
- Water allocation recommendations for the Wellington region (July 2015)

The information contained in these technical reports form the basis of allocation provisions in the PNRP.

### Key changes in provisions

Three key changes that are reflected in the water allocation provisions in the PNRP are:

- 1. Groundwater allocation has been split into three categories A, B, and C. These categories are based on the degree of connection to surface water environments direct (Category A), high (Category B), low (Category C). All Category A abstractions and some Category B abstractions are now considered surface water allocation.
- 2. Region wide defaults for surface water allocation are recommended. These are:
  - For small rivers and streams no more than 30% of 7 day naturalised Mean Annual Low Flow (MALF).
  - For large rivers no more than 50% of 7 day naturalised MALF.
- 3. Takes for any new or increased allocation that exceed allocation limits are considered a prohibited activity. However it is noted that until these prohibited activities become operative, they are considered discretionary activities under the RMA.

The total allocation from existing water takes for each catchment and aquifer has been assessed againist existing RFP allocation provisions and the PNRP allocation provisions. A detailed assessment is provided in Attachments 1 (Ruamahanga Whaitua), Attachment 2 (Hutt Valley and Wellington Whaitua), and Attachment 3 (Kapiti Coast Whaitua).

### Weighting the existing RFP provisions with PNRP provisions

In considering potential increased water allocation (either by way of new takes or seeking additional water for existing consents) through providing pre-application advice and potentially processing water take applications, it is important to not only consider the existing RFP provisions but also the PNRP provisions. When processing a consent application, a weighting exercise is not required if there is consistency with the recommendation that would arise through an assessment against both plans i.e. the recommendation would be the same e.g. grant under operative plan and grant under proposed plan.

When processing a water take application for a new or increased allocation where the RFP suggests approving allocation and the PNRP suggests declining allocation, a weighting exercise is required. There are a number of catchments and aquifers where this situation now occurs. DLA Piper have provided advice that when a weighting exercise is required (due to inconsistency and conflict) the principles to consider are:

- > The stage which the proposed plan has reached
- The extent to which the proposed measure might have been exposed to testing and independent decision making
- > The degree to which the proposed plan recognises a significant shift in Council policy
- > The extent to which a new measure, or the absences of one, might implement a coherent pattern of objectives and policies
- > Whether the proposed plan deals with an issue not addressed in the Operative Plan
- The degree to which the proposed plan reflects greater consistency with Part 2 of the RMA
- > Any circumstance of injustice

In addition, the caselaw is careful to note that simply because an activity is proposed to be prohibited, the RMA makes it clear that the Council must not (which such a rule is not operative) treat the activity as if it were (de facto) prohibited.

It is useful to remember that under Section 104(1)(b)(iii) of the RMA, consent authorities are to have regard to national policy statements. The National Policy Statement for Freshwater Management 2014 (NPSFM) provides over-arching policy guidance on freshwater management. Objective B2 and Policy B5 require consent authorities to ensure that no decisions are made that will likely result in future over allocation.

Therefore, when there are situations where groundwater or surface water allocation is available under the existing RFP provisions, but not available under the PNRP provisions; GWRC is likely to place more weight on the PNRP in relation to water allocation. Two key reasons for this are:

1. The PNRP clearly signals a significant policy shift (reflected in the fact there is 100% allocation in almost all catchments under the PNRP assessment and accordingly, a proposed prohibited activity status).

 The NPSFM requires that no decisionw are made that will likely result in over allocation. As the PNRP gives effects to the national policy direction (which was not in place when the RFP was made) those PNRP provisions are likely to be given more weight.

This is meant as broad guidance because each case will need to be assessed on its merits. An example of when a different weighting may apply is where there are reasonable circumstances of injustice. One example could be where an applicant has been given clear prior advice on available allocation when the draft PNRP provided direction on some catchments having available allocation. Other examples will need to be assessed on a case by case basis.

### **Attachment 3: Kapiti Coast whaitua**

### Allocation status of surface water under existing RFP provisions and PNRP provisions

Catchment management units	Existing RFP pr	ovisions and alloca	tion status	PNRP recommendations and allocation status			
	Current core allocation (L/s)	Core or capped allocation limit (L/s)	Allocation status	Current core and directly connected groundwater allocation (L/s)	Core allocation limit (L/s)	Allocation status	Comment
Waitohu Stream	0	57	<50% allocated	99	45	100% allocated	
Otaki River	157	2120	<50% allocated	286	1970	<50% allocated	
Mangaone Stream	24	25	96% allocated	38	45	85% allocated	The 38 L/s may incorporate a sma small streams in the Te Horo zone
Waikanae River	463	n/a <sup>1</sup>	n/a <sup>1</sup>	468	220	TOTAL AND DESIGN	

<sup>1</sup> No core allocation limit specified in RFP for this reach so existing allocation status cannot be defined

### Allocation status of groundwater under existing RFP provisions and PNRP provisions

Existing RFP provision	s and allocation	status <sup>1</sup>			PNRP recommendations and allocation status				
Existing zone name	Current	RFP	Allocation status		New zone name	Current	PNRP allocation	Allocation status	
	allocation allocation (Mm <sup>3</sup> /year) limit (Mm <sup>3</sup> /year)		All aquifers <sup>2</sup>	Deep aquifers		allocation Cat B/C (Mm <sup>3</sup> /year)	limit Cat B/C (Mm <sup>3</sup> /year)	Category A	
		"safe yield"							
Waitohu	0.54	6.40	<50% allocated	n/a	Waitohu	0.16	1.08	Waitontu, Categorio attocate	
Otaki	5.70	11.30	51% allocated	n/a				Otaki Calegory / allocate	
Hautere	0.78	6.70	<50% allocated	n/a	Te Horo	1.21	1.62	No Catego	
Coastal	0.61	6.80	<50% allocated	n/a					
Waikanae	9.20	10.70	86% allocated	n/a	Waikanae	2.70	2.70	TOUX ands	
Raumati/Paekakariki	0.38	4.80	<60% allocated	n/a	Raumati	0.94	0.81 <sup>3</sup>	No Catego	

<sup>1</sup> Existing allocation volumes and status are sourced primarily from Keenan et al (2012), although some values have been updated (indicated by a \*) where significant changes in allocation have occurred since 2010

<sup>2</sup> Status descriptions apply to all aquifers in the zone unless a deep aquifer unit has been described separately in the adjacent column (to the right)

<sup>3</sup> The allocation limit for the Raumati zone should be 1.229 Mm<sup>3</sup>/year not 0.81 Mm<sup>3</sup>/year. This has been flagged to be fixed as decisions are made on the PNRP.





### **Attachment 2: Hutt Valley and Wellington Harbour whaitua**

Allocation status of surface water allocation under existing RFP provisions and PNRP provisions

	Existing RFP pro	visions and alloca	tion status	PNRP recommendations and allocation status			
River Wainuiomata River	Current core allocation (L/s)		Current core and directly connected groundwater allocation (L/s)	Core allocation limit (L/s)	Allocation status	Comment	
Te Awa Kairangi / Hutt	1850 [upper reach]	n/a <sup>1</sup>	n/a <sup>1</sup>	2520	2140	this to allocated	
River	66 [lower reach]	300	<50% allocated				
Malastianata Disa	1095 [upper]	n/a <sup>1</sup>	n/a <sup>1</sup>	1124	190	mitty any and	
Wainuiomata River	33 [lower]	65	51% allocated	1134	180	THE R. DISCOME.	
Orongorongo River	1132	n/a <sup>1</sup>	n/a <sup>1</sup>	1132	95	TODA alexaded	-

<sup>1</sup> No core allocation limit specified in RFP for this reach so existing allocation status cannot be defined

### Allocation status of groundwater under existing RFP provisions and PNRP provisions

Existing RFP provision	s and allocation	status <sup>1</sup>		PNRP recommendat	PNRP recommendations and allocation status				
Existing zone name	Current	RFP	Allocation status		New zone name	Current	PNRP allocation limit Cat B/C (Mm <sup>3</sup> /year)	Allocation status	
	allocation (Mm <sup>3</sup> /year)		All aquifers <sup>2</sup>			allocation Cat B/C (Mm³/year)		Category A	
Upper Hutt	0.34*	26.90	<50% allocated	n/a	Upper Hutt	0.15	0.77	100% au	
Lower Hutt	33.75	33.00	100% allocated	n/a	Lower Hutt	33.04	36.50	1009, 3012	
Mangaroa	0.01	18.40	<50% allocated	n/a	Not in the new	framework. Groundwa	ter use from these	aquifers is so minor t	
Pakuratahi	0.01	5.90	<50% allocated	n/a					
Akatarawa	0.01	3.60	<50% allocated	n/a					
Wainuiomata	0.01	3.00	<50% allocated	n/a					

<sup>1</sup> Existing allocation volumes and status are sourced primarily from Keenan et al (2012), although some values have been updated (indicated by a \*) where significant changes in allocation have occurred since 2010

<sup>2</sup> Status descriptions apply to all aquifers in the zone unless a deep aquifer unit has been described separately in the adjacent column (to the right)

### August 2015

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### Allocation status of groundwater under existing RFP provisions and PNRP provisions

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Existing RFP provisions					PNRP provisions		· · · · · · · · · · · · · · · · · · ·		
Existing zone name	Current allocation	RFP allocation limit (Mm³/year)	Allocation status		New zone name	Current allocation Cat	PNRP allocation limit	Category A	
	(Mm³/year)		All aquifers <sup>2</sup>	Deep aquifers		C (Mm³/year)	Cat C (Mm³/year)	(Surface water)	
Opaki	0.05	2.3	<50 % allocated		Upper Ruamahanga	0.572	3.55	1076-086-36-4U	
Upper Opaki	0.56	4.5	<50 % anotated	(					
Rathkeale	1.781	3.0	59% allocated						
Te Ore Ore	1.223 (shallow)	3 (shallow)	<50 % allocated	65% allocated	Te Ore Ore	0.813	0.48		
	2.908 (deep)	4.5 (deep)							
Fernridge	0	1.5	<50 h allocated		Waingawa	0.725	1.90		
Upper Plain	3.479	17.0	<50 % allocated						
Masterton	0.249 (shallow)	3.2 (shallow)	<50 % allocated	<50 % allocated					
	0.027 (deep)	2.3 (deep)						a ser a s	
Fern Hill	1.03	4.7	<50 4 allocated		Fernhill-Tiffen	1.361	1.2	No Cat A	
Middle Ruamahanga	7.114 (shallow)	7.3 (shallow)	97% altocated	79% allocated	Middle Ruamahanga	No	Cat C	The second s	
	1.734 (deep)	2.2 (deep)		the second second	<u> </u>			and the second	
Parkvale	1.166 (shallow)	3.5 (shallow)	<50 seliocated	90% allocated	Parkvale	0.340 (shallow)	0.35	No Cat A	
	2.357 (deep)	2.62 (deep)		La Markier I		2.162 (deep)	1.55	No Cat A	
East Taratahi	0.01 (shallow)	14 (shallow)	<50 % allocated	<50 % allocated	Taratahi	0.318	1.4	No Cat A	
	0.14 (deep)	1.7 (deep)							
West Taratahi	0.482	5.3	<50 % allocated						
Mangatarere	1.147	7.6	<50 % allocated	Ū.	Mangatarere	2.548	2.3		
Matarawa	0.241	10.0	<50 mailocated						
Carterton	2.630	3.9	67% allocated						
Hodders	1.392	4.0	< 50 % allocated						
Greytown	3.344	20	<50 Wallocaled		Waiohine	No Cat C		ti inggi alla alla ti	
Ahikouka	2.265	3.3	69% allocated						
Woodside	0.561	16	<50 % allocated		Tauherenikau	4.745	6.6	in the second	
Moroa	0.172	0.7	<50 % allocated						
Battersea	1.848	2.4	77% allocated						
Tauherenikau	4.079	20.0	<50 % allocated						
South Featherston	1.500	5.3	<50 % allocated						
Whangaehu / Tuhitarata	0.129	0.5	< 10 % allocated		Lake	5.901	6.75	No Cat A	
Aquifer 2	11.71	13.5	87 % allocated	24					
Aquifer 3	3.254	7.7	<50 % allocated						
Tawaha	9.122	11	83% all scated		Lower Ruamahanga		No Cat C	THUS Alkerian	
Riverside	3.9	3.9	THE REPORTED		Moiki		No Cat C	torra marshall	
Martinborough Western Terraces	0.813	1.38	59% alkoated		Martinborough	0.942	0.8	No Cat A	
Martinborough Eastern Terraces	0.284	0.42	68% altocated	26					
Huangarua	0.311 (shallow)	) 0.9 (shallow)	<50 % allocated	and the second	Huangarua	0.650	0.65	(00%, all press)	
	1.292 (deep)	1.2 (deep)		A DESCRIPTION OF					
Pirinoa Terraces	0	18.1	50 % allocated	(	Not in the new framework	all a server of			
Tauanui	0.280	0.8	<50 % allocated		Onoke	1.058	2.1	Allocation status unknow	
Turanaganui	0894	1.1	81% allocated					ELS VELSION ENT	

August 2015



## Attachment 1: Ruamahanga whaitua

River	Existing RFP pr	ovisions		PNRP provisions					
	Current allocation	Core or capped allocation limit	Allocation status	Current allocation	Core allocation limit	Catchment management sub-unit status	Catchment management unit status	Comment	
RUAMAHANGA RIVER	No provision			7953	7535	N/A	100% allocated		
Kopuaranga River	125	125	182% advantage	150	180	83% allocated			
Waipoua River	65	90	72% allocated	129	145	89% allocated			
* Makoura Stream	26	40	65% allocated	Not in PNRP					
Waingawa River	1079	1040	TOTAL ANOLANEA	1197	920	TUDP's anosatest			
Upper Ruamahanga River	672	800	84% allocated	958	1200	80% allocated			
*Parkvale Stream	106	160	66% allocated	151	40	1999年1月1日			
* Booths Creek	97	100	97% allocated	109	25	nich Himaled			
Mangatarere Stream	176 (upper)	180 (upper)	98% allocated	479	110	Site's alcosated			
	133 (lower)	140 (lower)	95% allocated						
* Taueru River	41	50	82% allocated	Not in PNRP					
* Makahakaha Stream	31	50	62% allocated	Not in PNRP					
Waiohine River	731	740	99% allocated	1003	1590	63% allocated			
* Papawai Stream	120	200	60% allocated	341	65	Test allocated			
Middle Ruamahanga River	See Upper Ruamahanga River above			964	1240	78% allocated			
Huangarua River	No provision			91	110	84% allocated	(분위원) 감기 귀응		
Lower Ruamahanga River	1244	1500	83% allocated	2381	1475	PERIA Allocation			

### Allocation status of surface water under existing RFP provisions and PNRP provisions

River	Existing RFP provisions				PNRP provisions					
	Current allocation	Core or capped allocation limit	Allocation status	Current allocation	Core allocation limit	Catchment management sub-unit status	Catchment management unit status	Comment		
LAKE WAIRARAPA		No provi	sion	1826	1800	N/A	100%, allocated			
* Otukura Stream	46	60	77% allocated	165	30	TERMS since their				
* Dock Creek	212	210	TOLING allow allows	Not in draft NRP	recommendations					
Tauherenikau River	211.5	405	52% allocated	235	410	57% allocated	이 가지가 봐야 하는 것 같			

\*These limits are capped allocation limits where potential over allocation was identified through a change to the RFP in May 2009. Since that time some consents have been surrendered or reduced during consent renewal.

# Large rivers - 50% of 7 day MALF allocated. Small rivers - 30% of 7 day MALF allocated

Note: There is no allocation limits in the PNRP for water takes below the confluence with Lake Wairarapa outflow.

August 2015

From: Sent: To: Subject: Amber Owen Thursday, 16 July 2015 8:18 AM

Resource Consent Application WGN160011

Tena koe Jennie

• Resource Consent Application WGN160011: to transfer and renew a water permit (WGN070193) to take and use groundwater from the Waiwhetu Artesian Aquifer at 486 Jackson St, Petone, Lower Hutt. PrimeProperty Group Limited have applied for this consent and Kirsty van Reenen will process the application.

I am sending you this in terms of the agreement between Ngati Toa and the Greater Wellington Regional Council in relation to tangata whenua consultation for non-notified resource consents. I note that no decision has been made on notification of this application. If we determine this application should be publically notified, you will be advised.

Could you please let Jeremy Rusbatch know within two working days whether you wish to comment on this application.

Please note that the PDF file of this application is too large to send via email. Let me know if you require a hard copy to be sent.

Naku noa,

Amber Owen | Environmental Regulation Administrator, Environmental Support GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington 6011 T: 04 830-4154 | www.gw.govt.nz

From: Sent: To: Subject: Attachments: Amber Owen Thursday, 16 July 2015 8:12 AM

Resource Consent Application WGN160011 WGN\_DOCS-#1507504-v1-Application\_for\_Resource\_Consent\_-\_PrimeProperty\_Group\_Limited\_-\_486 \_Jackson\_Street\_\_Petone\_\_Lower\_Hutt.PDF

Tena koe Lee

• Resource Consent Application WGN160011: to transfer and renew a water permit (WGN070193) to take and use groundwater from the Waiwhetu Artesian Aquifer at 486 Jackson St, Petone, Lower Hutt. PrimeProperty Group Limited have applied for this consent and Kirsty van Reenen will process the application.

I am sending you this in terms of the agreement between the Port Nicholson Block Settlement Trust and the Greater Wellington Regional Council in relation to tangata whenua consultation for non-notified resource consents. I note that no decision has been made on notification of this application. If we determine this application should be publically notified, you will be advised.

Could you please let Jeremy Rusbatch know within two working days whether you wish to comment on this application.

Naku noa,

Amber Owen | Environmental Regulation Administrator, Environmental Support GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington 6011 T: 04 830-4154 | www.gw.govt.nz

From:	Quinn, Stephen
Sent:	Thursday, 10 September 2015 1:03 PM
То:	Kirsty van Reenen
Cc:	Buchanan, Anne
Subject:	FW: Prime Properties consent application to renew water permit WGN160011 [DLANZ-CLIENT.FID29467]
Attachments:	Ltr to GWRC re Prime Property Group - renewal of water permit_1993797_1.DOCX
Follow Up Flag: Flag Status:	Follow up Completed

### Kirsty

I attach our advice in response to your questions. I am happy to discuss this with you further.

### Regards

### Stephen Quinn

Partner



#### www.dlapiper.co.nz

DLA Piper New Zealand is an independent law firm. It is associated with DLA Piper, a global law firm operating through various separate and distinct legal entities.

From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz]
Sent: Friday, 4 September 2015 1:40 p.m.
To: Manohar, Emma
Subject: Prime Properties consent application to renew water permit WGN160011

### Hi Emma,

As discussed, I am after some legal advice about a water permit I'm processing. The application and further information response is attached and I've provided some context and outlined my questions below.

### Application

Unilever have a water permit to abstract water from the Waiwhetu Aquifer in Lower Hutt for industrial purposes. Their consent is for the abstraction of 17,800m<sup>3</sup> over any seven day period (average of 2,543m<sup>3</sup>/day) for 52 weeks a year, which equates to an annual take of 925,600m<sup>3</sup>. The water permit expires on 29 March 2017.

Prime Property have purchased the Unilever site and will take possession in December 2015 with the intention of reestablishing industrial activity on the site. Prime property have applied to renew the Unilever water permit with the same abstraction limits. They have stated that they want to secure a water permit so they are able to attach tenants to the site. The consent application does not include any details of projected water use or justification for the amount of water applied for. I requested this information as part of a s92(2) request which they have responded to stating that it is likely that a water bottling company would establish on the site. They have provided details of consented water takes for bottling around the country of which most are consented to take a significantly lower quantity of water than that applied for by Prime Property.

- The consent application was lodge prior to the Proposed Natural Resources Plan (PNRP) being notified.
- The site is located in the Lower Hutt Groundwater Zone under the Operative Freshwater Plan and this groundwater zone is currently 100.45% allocated (this includes the Unilver water permit)
- The site is located within the Lower Hutt Category B Groundwater Management Unit under the PNRP and this management unit is currently 91% allocated i.e. there is more water available under the PNRP
- The AEE has been reviewed and the effects are considered to be no more than minor.
- The only affected party, Wellington Water who hold resource consent to abstract water from the aquifer for public water supply, have provided their written approval to the application.

### Activity classification

Rule 16 of the Operative Regional Freshwater Plan applies to water takes as a discretionary activity. Rule 16 excludes takes of water from the Lower Hutt Groundwater Zone that would cause the maximum rate of take authorised by resource consents to exceed 32.85 million cubic metres per year. Takes which cause the maximum rate of take authorised by resource consents to exceed 32.85 cubic metres per year are a non-complying activity under Rule 19.

The rate of take from the Lower Hutt Groundwater Zone authorised by resource consents currently exceeds 32.85 million cubic metres per year (currently 100.45% allocated). The officers reports for previous renewal applications of the Unilever water permit state that the activity is a discretionary activity as the water is already allocated and the total volume of water abstracted from the Lower Hutt Groundwater zone will be the same.

1. <u>Should GWRC continue with this interpretation of rules 16 and 19 of the RFP and consider the current application a discretionary activity?</u>

### Reasonable and efficient use of water

Objective B3 of the National Policy Statement for Freshwater Management, Policy 6.2.18 of the Operative RFP and P118 of the PNRP all aim to achieve the reasonable and efficient use of water. However, the applicant has not provided evidence that the quantity of water sought is reasonable considering its intended use (as this has not yet been confirmed). Policy P118 and Schedule Q of the PNRP require an assessment of reasonable and efficient use with applications. This is what we would require for, for example, an application for a water permit for a dairy farm.

The consent application makes the following points:

- Hutt City Council have indicated that there is little industrial land left in lower Hutt so the demand for water is not expected to grow (I note that this doesn't consider change in use though)
- Under the PNRP there is more water available in the groundwater management unit (this is correct).
- 2. <u>Does GWRC have enough information about the intended use of the site to be able to justify granting consent for the amount of water sought?</u>
- 3. <u>Are there risks for GWRC in granted consent based on the limited information about the intended use of the water?</u>
- 4. Policy P119 of the PNRP discusses unused water, however this would only apply when the consent came up for renewal (and the applicant has sought a long term consent). Are there other mechanisms/conditions that GWRC could use to address the potential issue of unused water/water banking?

If you could confirm whether someone is able to look at this by the end of next week it would be great. The PO number is 214008.

Kind Regards

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz

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Kirsty van Reenen Friday, 4 September 2015 1:40 PM

Prime Properties consent application to renew water permit WGN160011 WGN\_DOCS-#1510215-v1-s92(1)\_&\_95E\_letter\_WGN160011 \_Prime\_Property\_Ltd.PDF; Unilever - S92 Response

### Hi Emma,

As discussed, I am after some legal advice about a water permit I'm processing. The application and further information response is attached and I've provided some context and outlined my questions below.

### Application

Unilever have a water permit to abstract water from the Waiwhetu Aquifer in Lower Hutt for industrial purposes. Their consent is for the abstraction of 17,800m<sup>3</sup> over any seven day period (average of 2,543m<sup>3</sup>/day) for 52 weeks a year, which equates to an annual take of 925,600m<sup>3</sup>. The water permit expires on 29 March 2017.

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- The AEE has been reviewed and the effects are considered to be no more than minor.
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### Reasonable and efficient use of water

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been confirmed). Policy P118 and Schedule Q of the PNRP require an assessment of reasonable and efficient use with applications. This is what we would require for, for example, an application for a water permit for a dairy farm.

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- 2. <u>Does GWRC have enough information about the intended use of the site to be able to justify granting consent for the amount of water sought?</u>
- 3. <u>Are there risks for GWRC in granted consent based on the limited information about the intended use of the water?</u>
- 4. <u>Policy P119 of the PNRP discusses unused water, however this would only apply when the consent came up for renewal (and the applicant has sought a long term consent). Are there other mechanisms/conditions that GWRC could use to address the potential issue of unused water/water banking?</u>

If you could confirm whether someone is able to look at this by the end of next week it would be great. The PO number is 214008.

Kind Regards

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz

From:	Kirsty van Reenen
Sent:	Monday, 7 September 2015 12:11 PM
То:	'lan Leary'
Subject:	Prime Property WGN160011 - review of further info

Hi lan,

As discussed on Friday I have sought some legal advice around the level of detail GWRC needs about the intended use of the water and therefore justification for the amount of water sought. I hope to get this advice later this week.

Andrea and I have reviewed the rest of the further info that was provided and have a couple of further questions, would you be able to go back to PDP with these?

- 1. Depth of bores: the further information states that the bore logs and bore construction details have been lost. However, we do need to know the screened interval of the bores to confirm which aquifer the bores are abstracting from. In the Proposed Natural Resources Plan the Waiwhetu Aquifer is divided into several 'groundwater management units' and different allocation limits and minimum low/water level restrictions apply to each depending on depth, connectivity with the Hutt River etc. Can PDP undertake geophysical wire line logging investigations to determine the bore construction details and any geological data that can be gathered from the steel cased borehole? GWRC cannot give consent to abstract groundwater where we don't know exactly which aquifer it is drawing from.
- 2. Can you clarify whether the 'back-up bore' will actually be a backup bore as implied in the further information? If the new tenants want to use the full amount of water sought wouldn't both bores need to be running at the max pumping rate to meet this demand? If one bore is to be a backup bore this implies that not all the water sought will be required.
- 3. Is it possible for PDP to determine what the pump rate and correlating pressure head (or water level) would be in the main bore for the three trigger levels in GWRC monitoring well R27/0122 (McEwan Park), namely 2.5m amsl, 2.3m amsl and 2.0m amsl?

Kind Regards

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz

From: Sent: To:	lan Leary Sunday, 14 February 2016 9:23 AM Kirsty van Reenen
Subject:	Water Permit WGN 160011
Attachments:	DOC050216-05022016080736.pdf
Follow Up Flag:	Follow up
Flag Status:	Completed

Kirsty,

We advise that the applicant for the water permit is now Petone Property Holdings Ltd. The application was previously made in the name of Prime Property Group.

We attach Unilever's written approval for the transfer.

We trust that there are now no remaining issues and that the consent can issue in due course.

Regards

Ian Leary Director - Survey and Planning SpencerHolmes Limited

PO Box 588, Wellington 6140 Level 6, 8 Willis Street, Wellington 6011

www.spencerholmes.co.nz DDI Μ

**P** 04-472-2261 **F** 04-471-2372

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From: Andrew Monahan [mailto Sent: Friday, 5 February 2016 9:14 a.m. To: Ian Leary Subject: Water Permit

Cheers

Regards Andrew Monahan

Begin forwarded message:

### Andrew Monahan PRIMEPROPERTY GROUP LIMITED

Level 6, Customs House, 17-21 Whitmore Street, Wellington, New Zealand PO Box 11-785, Wellington, New Zealand <u>andrew@primeproperty.co.nz</u> 04 4600 459 - 021 772 350

# PRIMEPROPERTY.CO.NZ



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From: Primeproperty Reception <<u>reception@primeproperty.co.nz</u>> Date: 5 February 2016 at 9:07:40 AM NZDT To: Andrew Monahan Subject: Send data from Es5055c 05/02/2016 08:07

> Scanned from Es5055c Date:05/02/2016 08:07 Pages:2 Resolution:200x200 DPI

\_\_\_\_\_
From:	Chris Woodhouse
Sent:	Wednesday, 23 September 2015 5:31 PM
To:	Kirsty van Reenen
Cc:	Ian Leary
Subject:	Prime Property WGN160011 Review of Further Information
Follow Up Flag:	Follow up
Flag Status:	Completed

Hi Kirsty,

We have been requested by Ian Leary (copied into this email) to respond to your questions, dated 7<sup>th</sup> September 2015, regarding the Unilever site groundwater take renewal.

Further to our telephone conversation, please find our responses to your questions outlined below:

1. Depth of bores: the further information states that the bore logs and bore construction details have been lost. However, we do need to know the screened interval of the bores to confirm which aquifer the bores are abstracting from. In the Proposed Natural Resources Plan the Waiwhetu Aquifer is divided into several 'groundwater management units' and different allocation limits and minimum low/water level restrictions apply to each depending on depth, connectivity with the Hutt River etc. Can PDP undertake geophysical wire line logging investigations to determine the bore construction details and any geological data that can be gathered from the steel cased borehole? GWRC cannot give consent to abstract groundwater where we don't know exactly which aquifer it is drawing from.

Based on the available information for the bores installed on the Unilever site, PDP consider that the bores take groundwater from a depth of > 15 m. This groundwater would be classed as "Category B" groundwater in accordance with the Proposed Natural Resources Plan. We understand that GWRC have reviewed the available information, and have reached the same conclusion. Further investigations into the depth and screened interval of the bores will therefore not be required.

2. Can you clarify whether the 'back-up bore' will actually be a backup bore as implied in the further information? If the new tenants want to use the full amount of water sought wouldn't both bores need to be running at the max pumping rate to meet this demand? If one bore is to be a backup bore this implies that not all the water sought will be required.

PDP understand that the "back-up bore" will be used as a back-up however, this should be confirmed by the Applicant. Based on information supplied by Unilever, the pumps installed in each bore are capable of abstracting at a volume greater than that requested. Therefore, both bores will not be required to be operating simultaneously during operation.

3. Is it possible for PDP to determine what the pump rate and correlating pressure head (or water level) would be in the main bore for the three trigger levels in GWRC monitoring well R27/0122 (McEwan Park), namely 2.5m amsl, 2.3m amsl and 2.0m amsl?

This calculation would be difficult to perform, because the groundwater system is dynamic in this area, and the primary influences on groundwater levels in the McEwan Park bore are abstraction from the Waterloo borefield, and climatic effects (as was discussed in the original application). An analytical calculation of this kind, would therefore require numerous assumptions and be unreliable. However, the installed pumps are both surface mounted, and if water levels decrease to around 8 m below ground level, the pumps will cease to function. Data from Unilever indicates that abstraction was much greater than the requested rate in the past (see original application) and the bores continued to function. This implies that groundwater levels were above 8 m below

ground level. It can therefore be inferred that with the proposed abstraction, groundwater levels would continue to not decrease below this point.

If you have any further questions regarding the above, please do not hesitate to contact me.

Thanks,

Chris

Chris Woodhouse MSc | Hydrogeologist PATTLE DELAMORE PARTNERS LTD Level 1, 111 Customhouse Quay, Wellington 6011 PO Box 6136, Wellington 6141 NEW ZEALAND

DDI - | Mobile - | Mobile - | Office - +64 4 471 4130 | Fax - +64 4 471 4131 Map - <u>Wellington Office</u> | Web - <u>www.pdp.co.nz</u>

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From: Andrea Broughton Wednesday, 22 July 2015 11:01 AM Sent: Kirsty van Reenen Re: WGN160011 Unilever water take renewal Subject: **Follow Up Flag:** Follow up **Flag Status:** Completed

## Hi Kirsty

To:

PDP have taken on board Mark's comments and have presented their drawdown calculations at saline intrusion monitoring bore R27/0122, that being 0.09m which is based on conservative aquifer values (as well as other resource users i.e. Shandon Golf Club). In order to be conservative, PDP have used the values of 28,000 m2/day, and 6.4 x 10-4 for the drawdown assessments. They say these values have been derived from the calibrated hydraulic parameters used in the most recent Hutt Aquifer Model (HAM3) numerical model developed for GWRC by Gyopari (2014). Calibrated values for the Upper Waiwhetu aquifer were 1400 m/day and 3.2 x 10-5 m-1 for hydraulic conductivity and specific storage, respectively. Using the most conservative (smallest) thickness of the Upper Waiwhetu aquifer of 20 m results gives values of 28,000 m2/day, and 6.4 x 10-4 for the transmissivity and storativity respectively.

PDP show hydrographs indicating fluctuations in water level in the monitoring wells have been controlled by GWRC bulk water supply abstraction and say these mask any effect of abstraction by Unilever. It is expected that this will continue, and drawdown in the closest saline intrusion monitoring well, R27/0122, as a result of the proposed take is not expected to exceed 0.09 m (calculated using Theiss equation. I calculated the same value using Jacobs equation. I calculated if they pump non-stop for 35 years the drawdown will only be 0.12m. This is unrealistic because the pumping bores will stop for holidays which I would allow the aquifer to recover but to pre-pumping levels).

Abstraction at the rate of 2,543 m3/day from the Unilever site could cause the existing stand-by level of 2.5 m amsl to be breached more regularly, although no significant increase in risk of saline intrusion would actually occur.

With respect to....' GWRC should consider saline intrusion mitigation conditions consistent with those applied to the bulk water consents - but updated to reflect the recent saline intrusion mitigation recommendations provided in the HAM3 study. PDP suggest 'GWRC consider decreasing the stand-by level at R27/0122 to 2.45m amsl. This would prevent the local effect from this take from influencing groundwater abstraction elsewhere in the Lower Hutt GMZ, and would not increase the risk of saline intrusion in the Waiwhetu aguifer.'

I think they maybe correct on this last point but I think that depends on the level of uncertainty around the 2.5m amsl? Three factors have to occur before groundwater takes are ramp down, that being, water level and EC in saline intrusion monitoring bores, and hydraulic gradient in monitoring well pairs. So we are not relying heavily on the 2.5m amsl trigger level and it has been breeched plenty of times without there being a reversal in hydraulic gradient and increases in EC levels. It is therefore really the inconvenience to all involved when the stand-by level of 2.5m is breeched.

Analysis by PDP 'shows that small, isolated reversals in the hydraulic gradients occur in response to abrupt increases in abstraction from GWRC's Waterloo wellfield. Two of the last three reversals have been caused by an increase in abstraction from the Waterloo wellfield above GWRC's consented volume.'

I understand there were no changes in the EC levels? Recent groundwater flow modelling commissioned by GWRC suggests that the sustainable groundwater abstraction for this GMZ is 36.5 x 106 m3/year (Gyopari, 2014).Were

these abstractions from Waterloo above the revised allocation level?

PDP propose that a 7-day mean hydraulic gradient is used between monitoring wells R27/0122 and R27/1171 in the monitoring framework. They say this will prevent small, isolated reversals caused by abstraction from the Waterloo wellfield from disrupting groundwater users in the Lower Hutt groundwater management zone. Please could you ask Mark what he thinks about this suggestion?

PDP suggest 'to be consistent with the proposed saline intrusion management framework, a series of conditions are applied to the proposed abstraction. These conditions would involve progressive reduction in pumping from the Applicant's bores as the level of risk increases. Given current conditions, these measures will be sufficient to protect against the risk of saline intrusion.' I agree with this idea but think we need to co-relate the pressure level in monitoring bore R27/0122 wrt the actual groundwater pressure head in the ex Unilever pumping bore (s) at known pumping rates. I would think a bore pump test is required to determine this so these rates are meaningful and useful. Does Mark agree?

Effects on neighbouring groundwater bores and stream depletion will be minimal, owing to the relatively high transmissivity of the Waiwhetu aquifer and the protection afforded by the overlying ~30m Petone Marine Beds. Drawdown at Shandon Golf Course is approximately 0.08m (i got 0.09m).

I need to fly now but on my return I will go through HAM2 report with a view to thinking about consent conditions. However, in the meantime if you could run the above by Mark I would appreciate it.

Cheers, Andrea

On Wed, Jul 22, 2015 at 10:11 AM, Andrea Broughton wrote:

Hi Kirsty

I was going to say we need to talk to Mark, as he has set the limits for the Hutt Groundwater Zone. I looked on the application to see if PDP had communications with Mark, but it only said you and Jeremy, which is why I was going to suggest discussing with Mark.

PDP have made a suggestion for conditions so I will check against Mark's suggestions. So hold off talking to Mark until I look at it all.

Cheers, Andrea

On 22/07/2015 9:57 AM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I asked Mark Gyopari to provide some advice about the type of assessment we would require in this application – I've copied his comments below. These comments were passed on to the applicant prior to them preparing the application. Have all these points been covered off in the PDP report? If not, we can go back to them and ask for it. Maybe we need to have a chat with Mark?

Hi Kirsty,

Regarding the Unilever pre-application advice:

1. I do not think that it is necessary to undertake any additional physical bore testing or fieldwork to support this consent renewal. The Waiwhetu Aquifer in this area is very well characterised.

2. It may be worth the Applicant undertaking basic drawdown assessments using updated aquifer parameters (derived from the 2104 HAM3 modelling study) and anticipated maximum daily pumping rates over a realistic duration. We are particularly interested in the drawdown effect on the McEwan Park saline intrusion monitoring well and how this might impact on resource availability (including public water supply) during prolonged stressed (drought) periods when aquifer levels approach saline intrusion triggers .

3. Water use monitoring provided by Unilever (2012-2015) shows that actual water use has been considerably less than the consented quantity. The monitoring data show that the 7-day usage has not exceed about 5 % of the allocated amount (17,800m<sup>3</sup>). In general, over the last 3 years, monthly usage has been at most 5-6% of the allocated monthly volume (71,200m<sup>3</sup>) - the highest monthly use being about 4,000m<sup>3</sup> for May 2012. The monthly use was consistently less than 2,000m<sup>3</sup> in 2014 (less than 3% of the allocation). Water use monitoring data therefore suggests that the current water allocation significantly exceeds the Applicants requirements. Given the very high value of this resource for public water supply, clarification and justification of the volume of water sought is required. (

4. GWRC should consider saline intrusion mitigation conditions consistent with those applied to the bulk water consents – but updated to reflect the recent saline intrusion mitigation recommendations provided in the HAM3 study.

Regards

Mark

Dr Mark Gyopari

Earth in Mind Limited

From: Andrea Broughton [mailto:
Sent: Wednesday, 22 July 2015 9:27 a.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

I have now finished reading through PDPs EIS and PPG application with a fine tooth comb. I have a number of comments to make but I have a full day today and might not get a chance to sit at my desk. I will get comments to you by tomorrow.

In the meantime, I am concerned at the lack of bore data. Firstly there are three bores. Am I right in thinking this consent covers only the two bores located right next to each other? There have been no pump tests and there are no borelogs, although I am relying on a GWRC Gear Island bore on the property, and no management plan of how the three bores are really going to be used. If I am going to suggest conditions on PPG consent I would think it best to base it around water pressure in the bore relative to water pressure in the saline monitoring bore R27:0122. I can't do this without understanding drawdown vs abstraction rate in the bores. I will expand on this in my comments later today/tomorrow.

For anyone else I would be asking for a pump test, these folk are no exception. I know there are plenty of T and S values from Mark Gs work but we would still expect a 24 hour pump test wouldn't we?

Cheers, Andrea

On 20/07/2015 2:52 PM, "Andrea Broughton" > wrote:

Hi Kirsty

Thanks for your email. Unfortunately, I just missed your call earlier.

I am reading through PDP report and will get back to you tomorrow if I require any further information.

Cheers,

Andrea

On Mon, Jul 20, 2015 at 2:27 PM, Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

Thanks for looking at this one, my list of questions for your assessment are below:

• Is the application, in particular the PDP report, fit for purpose? Are there information gaps or areas that need further clarification to fully understand the effects of the proposed water take?

• The Waiwhetu Aquifer is a significant resource in terms of providing water for public water supply. Wellington Water hold consents to take water for public water supply from the aquifer and have expressed an interest in this application (although a decision on affected persons has not yet been made). Do you agree with the assessment of effects on the bulk water supply abstraction? in particular, during periods of high water demand both bulk water and the applicant will likely be drawing their full allocation, what risks are there in terms of the aquifer pressure dropping, saline intrusion and the ability of bulk water to be able to continue to abstract water for public water supply during these periods. Should we place restrictions on this applicants consent to protect the ability for bulk water to abstract water during periods of high water demand? The current consent includes a condition (condition 4 of WGN070193 [25890] in the attachments to the application) which required the consent holder to comply with abstraction limits directed by Wellington Regional Council. We would prefer the condition to be more specific about restrictions (i.e. reduction or cease take when aquifer pressure gets to certain levels) to avoid the consent holder trying to counter argue a direction by WRC, do you have any suggestions for appropriate restrictions.

• Do you agree with the applicants assessment of effects on other nearby groundwater users, including the Shandon Golf Club?

Do you agree with the assessment of effects on the Hutt River?

• Water permits are generally granted for a period of 10 years. The applicant has sought a consent duration of 35 years, do you have any comments on consent duration? Are there any uncertainties about effects of the abstraction that would warrant a consent of less than 35 years?

• Any other comments

We haven't reviewed any work by Chris Woodhouse before so would be interested in what you think about his assessment. Give me a call if you have any questions or need any further info.

Thanks

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Shed 39, 2 Fryatt Quay, Pipitea, Wellington

PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** <u>www.gw.govt.nz</u>

From: Andrea Broughton [mailto:
Sent: Friday, 17 July 2015 12:23 p.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

I hope my son was polite!

I do have time and I will do a quick skip read through the document over weekend. I will look forward to hearing from you on Monday. I will be available after 11am.

Cheers, Andrea

On 17/07/2015 12:15 PM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I spoke with your son this morning who said you were out so I thought I would email you and will give you a call on Monday to discuss. I'm processing an application for the renewal of a water take from the Lower Hutt Groundwater Zone (old Unilever site). They are applying for the same abstraction limits (up to 929,000m3/year) but have applied for a long term consent and Wellington Water have indicated that they have an interest in the application (although I'm not sure they will be an affected party). The applicant has engaged Chris Woodhouse from PDP to undertake an assessment of effects on Saline intrusion risk, drawdown effects on neighbouring takes, stream depletion effects and subsistence. Do you have capacity to undertake a review of this assessment over the next couple of weeks? If you do, I'll fire through my list of questions on Monday.

I've attached a copy of the application so you can see the size of the report (sorry it's a large document!).

Have a good weekend

### Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Shed 39, 2 Fryatt Quay, Pipitea, Wellington

PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz

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From:	Manohar, Emma
Sent:	Friday, 4 September 2015 2:30 PM
То:	Kirsty van Reenen
Subject:	RE: Prime Properties consent application to renew water permit WGN160011

Hi Kirsty,

I can confirm that we are able to provide this advice within the requested timeframe.

Kind regards Emma

Emma Manohar Senior Solicitor

T F E		
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From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz]
Sent: Friday, 4 September 2015 1:40 p.m.
To: Manohar, Emma
Subject: Prime Properties consent application to renew water permit WGN160011

Hi Emma,

As discussed, I am after some legal advice about a water permit I'm processing. The application and further information response is attached and I've provided some context and outlined my questions below.

### Application

Unilever have a water permit to abstract water from the Waiwhetu Aquifer in Lower Hutt for industrial purposes. Their consent is for the abstraction of 17,800m<sup>3</sup> over any seven day period (average of 2,543m<sup>3</sup>/day) for 52 weeks a year, which equates to an annual take of 925,600m<sup>3</sup>. The water permit expires on 29 March 2017.

Prime Property have purchased the Unilever site and will take possession in December 2015 with the intention of reestablishing industrial activity on the site. Prime property have applied to renew the Unilever water permit with the same abstraction limits. They have stated that they want to secure a water permit so they are able to attach tenants to the site. The consent application does not include any details of projected water use or justification for the amount of water applied for. I requested this information as part of a s92(2) request which they have responded to stating that it is likely that a water bottling company would establish on the site. They have provided details of consented water takes for bottling around the country of which most are consented to take a significantly lower quantity of water than that applied for by Prime Property.

- The consent application was lodge prior to the Proposed Natural Resources Plan (PNRP) being notified.
- The site is located in the Lower Hutt Groundwater Zone under the Operative Freshwater Plan and this groundwater zone is currently 100.45% allocated (this includes the Unilver water permit)

- The site is located within the Lower Hutt Category B Groundwater Management Unit under the PNRP and this management unit is currently 91% allocated i.e. there is more water available under the PNRP
- The AEE has been reviewed and the effects are considered to be no more than minor.
- The only affected party, Wellington Water who hold resource consent to abstract water from the aquifer for public water supply, have provided their written approval to the application.

## **Activity classification**

Rule 16 of the Operative Regional Freshwater Plan applies to water takes as a discretionary activity. Rule 16 excludes takes of water from the Lower Hutt Groundwater Zone that would cause the maximum rate of take authorised by resource consents to exceed 32.85 million cubic metres per year. Takes which cause the maximum rate of take authorised by resource consents to exceed 32.85 cubic metres per year are a non-complying activity under Rule 19.

The rate of take from the Lower Hutt Groundwater Zone authorised by resource consents currently exceeds 32.85 million cubic metres per year (currently 100.45% allocated). The officers reports for previous renewal applications of the Unilever water permit state that the activity is a discretionary activity as the water is already allocated and the total volume of water abstracted from the Lower Hutt Groundwater zone will be the same.

1. <u>Should GWRC continue with this interpretation of rules 16 and 19 of the RFP and consider the current application a discretionary activity?</u>

## Reasonable and efficient use of water

Objective B3 of the National Policy Statement for Freshwater Management, Policy 6.2.18 of the Operative RFP and P118 of the PNRP all aim to achieve the reasonable and efficient use of water. However, the applicant has not provided evidence that the quantity of water sought is reasonable considering its intended use (as this has not yet been confirmed). Policy P118 and Schedule Q of the PNRP require an assessment of reasonable and efficient use with applications. This is what we would require for, for example, an application for a water permit for a dairy farm.

The consent application makes the following points:

- Hutt City Council have indicated that there is little industrial land left in lower Hutt so the demand for water is not expected to grow (I note that this doesn't consider change in use though)
- Under the PNRP there is more water available in the groundwater management unit (this is correct).
- 2. <u>Does GWRC have enough information about the intended use of the site to be able to justify granting consent for the amount of water sought?</u>
- 3. <u>Are there risks for GWRC in granted consent based on the limited information about the intended use of the water?</u>
- 4. Policy P119 of the PNRP discusses unused water, however this would only apply when the consent came up for renewal (and the applicant has sought a long term consent). Are there other mechanisms/conditions that GWRC could use to address the potential issue of unused water/water banking?

If you could confirm whether someone is able to look at this by the end of next week it would be great. The PO number is 214008.

Kind Regards

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** www.gw.govt.nz

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From:	Kirsty van Reenen
Sent:	Monday, 20 July 2015 2:27 PM
То:	'Andrea Broughton'
Subject:	RE: WGN160011 Unilever water take renewal

Hi Andrea,

Thanks for looking at this one, my list of questions for your assessment are below:

- Is the application, in particular the PDP report, fit for purpose? Are there information gaps or areas that need further clarification to fully understand the effects of the proposed water take?
- The Waiwhetu Aquifer is a significant resource in terms of providing water for public water supply. Wellington Water hold consents to take water for public water supply from the aquifer and have expressed an interest in this application (although a decision on affected persons has not yet been made). Do you agree with the assessment of effects on the bulk water supply abstraction? in particular, during periods of high water demand both bulk water and the applicant will likely be drawing their full allocation, what risks are there in terms of the aquifer pressure dropping, saline intrusion and the ability of bulk water to be able to continue to abstract water for public water supply during these periods. Should we place restrictions on this applicants consent to protect the ability for bulk water to abstract water during periods of high water demand? The current consent includes a condition (condition 4 of WGN070193 [25890] in the attachments to the application) which required the consent holder to comply with abstraction limits directed by Wellington Regional Council. We would prefer the condition to be more specific about restrictions (i.e. reduction or cease take when aquifer pressure gets to certain levels) to avoid the consent holder trying to counter argue a direction by WRC, do you have any suggestions for appropriate restrictions.
- Do you agree with the applicants assessment of effects on other nearby groundwater users, including the Shandon Golf Club?
- Do you agree with the assessment of effects on the Hutt River?
- Water permits are generally granted for a period of 10 years. The applicant has sought a consent duration of 35 years, do you have any comments on consent duration? Are there any uncertainties about effects of the abstraction that would warrant a consent of less than 35 years?
- Any other comments

We haven't reviewed any work by Chris Woodhouse before so would be interested in what you think about his assessment. Give me a call if you have any questions or need any further info.

Thanks

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From: Andrea Broughton [mailto:groundwatersolutionsint@gmail.com]
Sent: Friday, 17 July 2015 12:23 p.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

I hope my son was polite!

I do have time and I will do a quick skip read through the document over weekend. I will look forward to hearing from you on Monday. I will be available after 11am.

Cheers, Andrea

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Have a good weekend

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From:	Murray McLea
Sent:	Tuesday, 21 July 2015 12:06 PM
To:	Kirsty van Reenen
Cc:	Miranda Cross; Stephen Thawley
Subject:	RE: Renewal of Unilever water take - Lower Hutt
Follow Up Flag:	Follow up
Flag Status:	Completed

I assume the application has been made, no more water is being sought and submissions have not yet closed.

All policies in the RFP will be relevant. However, it sounds like the application will not be considered until after 31 July by which time the PNRP will have been notified. The activity status will not change but after 31 July the PNRP policies can also be considered (without much weight at this early stage).

I will not direct you to any PNRP policies but suggest that under both plans policies relating to mana whenua have potential to be relevant. I expect that whether or not mana whenua make a submission still has to be determined.

In terms of policy 6.2.18 (1) of the RFP, if bottling water is the intended use as long as all the water is going into bottles (there is no wastage) the amount being sought is not unreasonable.

Because we will all be looking and thinking about the way the operative and proposed plans interact for the next period of time, I have copied in Miranda and Stephen as a check for us all.

Enjoy

### Murray

From: Kirsty van ReenenSent: Monday, 20 July 2015 2:36 p.m.To: Murray McLeaSubject: Renewal of Unilever water take - Lower Hutt

Hi Murray,

I'm processing a consent application for a renewal of the Unilever groundwater take in Lower Hutt. The applicant is Prime Property Group who are currently purchasing the Unilver site but settlement doesn't take place until early next year. They are unable to provide information about the end use of the water but say in the application that an export business is likely to set up on the site (bottled water business?). Do you have any advice on how we should be assessing applications against Policy 6.2.18(1)? How much information do we need about the end use of the water?

Thanks

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** www.gw.govt.nz

From:	Kristin Aitken
Sent:	Friday, 17 July 2015 12:51 PM
То:	Kirsty van Reenen
Cc:	Geoff Williams
Subject:	RE: WGN160011 renewal of Unilever water take Lower Hutt
Attachments:	FW: Further clarification on the LHGWZ

Thanks Kirsty. I will forward to a colleague who works in the water supply area and we will be in touch to discuss with you. Please see the attached email from Jeremy Rusbatch regarding an expectation that Wellington Water would be considered an affected party where an application is located in the Lower Hutt Groundwater Zone.

Regards

Kristin Aitken Principal Advisor, Planning



Tel Mob Private Bag 39804, Wellington Mail Centre 5045 Level 4, IBM House, 25 Victoria Street, Petone, Lower Hutt

www.wellingtonwater.co.nz

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From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz]
Sent: Friday, 17 July 2015 11:44 a.m.
To: Kristin Aitken
Subject: WGN160011 renewal of Unilever water take Lower Hutt

Hi Kristin,

We have received the application for the transfer and renewal of the Unilever groundwater take in Lower Hutt. The applicant is Prime Property Group Limited – application attached. We are yet to make a decision on s95E affected persons.

It will be good to have a chat with you once you have looked at this to understand Wellington Waters level of interest in this application.

Kind Regards

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz

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From: Sent: To: Subject: Jo Bryan Tuesday, 26 May 2015 10:42 AM Kristin Aitken; Piotr Swierczynski FW: Further clarification on the LHGWZ

Hi Kristin and Piotr,

Cfyi below.

Jo Bryan Principal Advisor



Tel Mob

Private Bag 39804, Wellington Mail Centre 5045 Level 4, IBM House, 25 Victoria Street, Petone, Lower Hutt

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From: Jeremy Rusbatch [mailto:Jeremy.Rusbatch@gw.govt.nz]
Sent: Friday, 15 May 2015 3:20 p.m.
To: Jo Bryan
Subject: RE: Further clarification on the LHGWZ

Hi again Jo,

Hope you guys are coping post all this rain - our office has certainly been 'abuzz'

#### **Transfer 'notification'**

Unfortunately I cannot guarantee that we can do this – as this is an administrative exercise only, and does not see the consent changed at all.

#### New applications and WWL

Yes, I think that in most cases we could consider WWL an affected persons under the RMA for new/ replacement/ variation consents for water in the LHGWZ. The polices in the Regional Freshwater plan signal that this resource is principally for public supply, so there is an argument that we could make here to any applicants. See policy 6.2.5 of the RFP for the specific wording of this – it may be very similar to the wording you have read in the new plan.

#### Changes to the water resource over time

We do have the ability to review consents under section 128 of the RMA where unforeseen adverse effects are occurring due the use of a resource. If we did have a one off issue in a dry summer we could issue a water shortage direction to deal with the issue at hand. Also, ALL water take in the LHGWZ have restriction on them based on aquifer pressure, so we can 'step' down peoples takes under their current consents.

#### More than 103% possible

Well – it is possible but unlikely. As the aquifer is at 103%, any consent processed would be a non-complying activity. Which – in short, is the hardest consenting test under the RMA. We effectively view this as a 'prohibition' on any new takes.

Hope that helps,

Cheers, Jeremy

From: Jo Bryan [mailto Sent: Wednesday, 13 May 2015 11:10 a.m. To: Jeremy Rusbatch Cc: Colin Crampton; Erin Ganley; Geoff Williams Subject: further clarification

Hi Jeremy,

Thanks so much for information you provided last week.

Following on from our recent conversation, I have a few more issues for clarification below.

We will assume you will continue to notify Erin Ganley and Geoff Williams (here at WW) if someone/anyone has applied for a resource consent to access the Hutt aquifer. Would this also be possible if GWRC intend to transfer a consent to a new owner? Hopefully any notification would allow us sufficient time to assess the impact of such a consent proceeding (assuming it is approved) and the impact on supply for the people of Wellington (assuming the aquifer itself could sustain additional allocations).

Resource consents are granted for periods of time but given over time conditions change and the health of the aquifer can change, are there any grounds that allocations can change/be restricted to ensure from a public good point of view that the resource can meet minimum demand and to ensure that the water is prioritised for public good use over commercial (esp. in the dryer months when the system comes under pressure). The draft Natural Resources Plan includes a policy where water takes below minimum levels can be authorised for the health needs of people (policy LW.P115 on page 73). Is there something similar in the current freshwater plan which gives priority for public water supply purposes?

How much more over 100% could the aquifer be allocated – could it go up to 120% for example? It seems aquifers are over allocated in other parts of the country?

Many thanks and happy if you call me on 021309345 if it's easier.

Jo Bryan Principal Advisor



Tel

Mob

Private Bag 39804, Wellington Mail Centre 5045 Level 4, IBM House, 25 Victoria Street, Petone, Lower Hutt www.wellingtonwater.co.nz

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From:	Kirsty van Reenen
Sent:	Tuesday, 28 July 2015 4:35 PM
То:	'Kristin Aitken'
Cc:	Geoff Williams; Keith Woolley; Piotr Swierczynski; Yon Cheong
Subject:	RE: WGN160011 renewal of Unilever water take Lower Hutt

Hi Kristin,

Thanks for this. Yes I have requested the applicant obtain written approval from Wellington Water and to provide further information on a number of matters, in particular justification for the quantity of water requested.

I spoke with Ian Leary before sending the letter and offered to arrange a meeting between WW, GWRC and the applicant once they had had a chance to consider the letter, he said he would contact Geoff directly in the first instance so you should hear from him soon.

Kind Regards

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** www.gw.govt.nz

From: Kristin Aitken [mailton
Sent: Tuesday, 28 July 2015 4:09 p.m.
To: Kirsty van Reenen
Cc: Geoff Williams; Keith Woolley; Piotr Swierczynski; Yon Cheong
Subject: WGN160011 renewal of Unilever water take Lower Hutt

## Hi Kirsty

I understand that GWRC has identified Wellington Water as an affected party in terms of section 95E of the RMA in relation to the application from Prime Property Group for the renewal of an existing water permit relating to the former Unilever site at 476 Jackson Street, Petone.

The following sets out our interests and concerns with this proposal.

Wellington Water abstracts on average about 40% of the drinking water supply to the four cities from the Waiwhetu aquifer. In drought conditions, when our river sources become depleted, the aquifer proportion of our total supply increases to over 60%. We recognise our role as the primary user of the aquifer and we support good management of the resource. We are interested in any activities that could have an impact on the availability and/or quality of the water for public supply purposes.

Our concerns about this application relate to:

- The impact of the abstraction on Wellington Water operations
- Priority being given to public supply
- Saline intrusion risk management

### Impact on Wellington Water Operations

The proposed renewal of the water take consent at the Unilever site would impact on Wellington Water operations when aquifer levels reduce such as during summer conditions. The abstraction point is less

than 400m from the McEwan Park monitoring well which is used to regulate bulk water abstraction from the aquifer. The predicted drawdown of around 90mm is not insignificant when the resource is stretched.

## Priority given to public supply

The Regional Freshwater Plan and Draft Natural Resources Plan give priority to water allocation for public supply. The proposed responses by the applicant to trigger levels being reached (Table 4 of the PDP report) does not appear to be consistent with this. We would like to be included in the discussion around how this will practically be achieved for this consent.

### Saline intrusion risk management

A significant abstraction from the Waiwhetu aquifer close to the foreshore is inherently higher risk than further up the valley. This is because of the potential for localised drawdown to lead to salt water intrusion and damage to aquifer water quality. The fact that this is a high risk location should be reflected in the constraints placed on any abstraction. The proposal for continuous abstraction at 2.5ML/d will have a negative impact on the effectiveness of the saline intrusion risk management framework proposed by Gyopari in 2014. This is because localised drawdown will mean the McEwan Park monitoring well will not give a level indication representative of the wider aquifer

The outcome that Wellington Water is after is to ensure that the continued supply to the public of safe drinking water is prioritised over other abstractions. This requires the careful management of the Waiwhetu aquifer in drought conditions and managing the risk of saltwater intrusion.

Wellington Water would like to work with the applicant and Greater Wellington to ensure these outcomes are met through appropriate consent conditions. I understand that the applicant's planner will be in touch with Geoff Williams to discuss.

Regards

#### Kristin Aitken Principal Advisor, Planning



Mob Private Bag 39804, Wellington Mail Centre 5045 Level 4, IBM House, 25 Victoria Street, Petone, Lower Hutt

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It will be good to have a chat with you once you have looked at this to understand Wellington Waters level of interest in this application.

Kind Regards

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From:	Sue Silvey
Sent:	Friday, 24 July 2015 2:45 PM
To:	Kirsty van Reenen
Subject:	RE: S92(1) adnd 95E letter WGN160011 Prime Property Group
Follow Up Flag:	Follow up
Flag Status:	Completed

#### Hi Kirsty

I have reviewed this for you. I didn't understand some of it as I don't know much about the Lower Hutt zone but I'm sure it's fine.

Sue

From: Kirsty van Reenen
Sent: Friday, 24 July 2015 2:11 p.m.
To: Sue Silvey
Subject: S92(1) adnd 95E letter WGN160011 Prime Property Group

Hi Sue,

You are my buddy for a water take renewal in Lower Hutt. Attached is a s92(2) and 95E letter, could you please QA this? I can give you a call to discuss if you like.

I was hoping to send it out today (and I leave at 4pm) but if this is a stretch Monday is fine.

Thanks Kirsty

From:
Sent:
To:
Subject:

Simon Hunt Tuesday, 28 July 2015 5:29 PM Kirsty van Reenen RE: Unilever water take

Hi Kirsty

Currently spreadsheets WGN070193

Cheers

Simon

From: Kirsty van Reenen Sent: Tuesday, 28 July 2015 4:39 p.m. To: Simon Hunt Subject: Unilever water take

Hi Simon, How do Unilever submit water use records to us? Is their data telemetered? Or do they send us spreadsheets?

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz

From: Sent: To: Cc: Subject:	Mike Thompson Thursday, 12 November 2015 11:17 AM Murray McLea; Kirsty van Reenen Mark Gyopari RE: Unilever consent	Doug Mzila
Follow Up Flag: Flag Status:	Follow up Completed	

Oh yes, thanks Murray you're right...we'd only consider restricting this take by 50%, not full cease take.

I think that restriction would be justified in this case in that it would only apply in the most extreme circumstances. Cheers mike

From: Murray McLea
Sent: Thursday, 12 November 2015 10:55 a.m.
To: Mike Thompson; Kirsty van Reenen
Cc: Mark Gyopari Doug Mzila
Subject: RE: Unilever consent

The proposed Plan indicates we are able to reduce groundwater takes below minimum flows according to policies and matters of discretion in the relevant restricted discretionary activity rule (so long as reduction can be justified).

However the policy (P115(d)) that category A groundwater is reduced by 50% of the amount consented above minimum flow may limit our ability to require full cessation of groundwater takes below minimum flow (for any groundwater category).

Murray

From: Mike Thompson
Sent: Thursday, 12 November 2015 9:43 a.m.
To: Kirsty van Reenen
Cc: Murray McLea; Mark Gyoparies Doug Mzila
Subject: RE: Unilever consent

Hi Kirsty

I think we established in our chat that low flow conditions to manage any depletion effects associated with the Hutt River at its nearest point to Uniliever would be unnecessary...because the river is tidal in this area.

However, the work Mark G has done with his HAM model also suggests that all takes in the Waiwhetu Aquifer (notwithstanding the 5L/s threshold we apply to exclude very minor takes) are contributing to depletion of the Hutt River in the recharge reach (downstream of Taita Gorge). PDP have recognised this connection in the AEE. Therefore I think it would be prudent to apply the minimum flow restriction criteria in the PNRP (ie, cease take when Hutt River at Birchville falls below 1200 L/s). PDP have suggested that because the Unilever take is very minor compared to the Bulk Water take no regulation is needed. This is a bit short-sighted I think. Our approach under extreme low river flows should be for all non-essential depleting takes (eg, Unilever) to stop and 'essential supplies' to be exercising all possible reductions. At the end of the day, we actually may not have any discretion available to us to not regulate given the PNRP provisions– Murray?

I'd note that the river very rarely gets into a state where regulation might be needed (the minimum flow has not been reached since the 1970s and that may have been due to a more excessive groundwater pumping regime back then). So application of this low flow restriction criteria would have little impact in practice to the Unilever security of supply. Although if minimum flows are revised in the future the Unilever take would obviously be affected.

Murray/Mark/Doug - not sure if you have anything to add/a different view?

Cheers Mike

**From:** Kirsty van Reenen **Sent:** Wednesday, 4 November 2015 2:54 p.m. **To:** Mike Thompson **Subject:** Unilever consent

Hi Mike,

We had a chat a while ago about whether the renewed Unilever water take from the Waiwhetu Aquifer should be subject to low flow conditions given the connectivity to the Hutt River. Have you had any more thoughts about this?

Thanks

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** www.gw.govt.nz

From:	Andrea Broughton
Sent:	Friday, 4 September 2015 5:49 PM
To:	Kirsty van Reenen
Subject:	Re: WGN160011 Unilever water take renewal
Follow Up Flag:	Follow up
Flag Status:	Completed

#### Hi Kirsty

I have looked over your letter to PPG, and PPG & PDP's response to my/our questions. I am happy with PDPs responses. However, my main concerns are:

- 1. The lack of bore construction details (especially the screen interval).
- 2. The pumping scenario involving the main bore and 'back-up' bore (see comments under Query 3).

My comments on PDPs responses are as follows:

## Query 2:

I am relieved to see that there is only one bore in the main pit!

I agree with PDP that this main bore and the backup bore are likely to be R27/1167 and R27/1168, and they are located incorrectly in Shandon Golf Club given the bore owners name being Lever Bros. However, which bore is the main bore and which bore is the back up bore is unknown given the bore logs and bore construction details are lost.

PDP has said they are unable to dip the bore to confirm the bore depths due to the configuration of the bore headworks. However, we need to also know that screened interval of this bore to confirm which aquifer this bore is abstracting from. I suggest to you that PPG should look to undertake geophysical wire line logging investigations to determine the bore construction details and any geological data that can be gathered from the steel cased borehole. PPG must understand that GWRC can not give consent to abstract groundwater from a borehole where they don't even know exactly which aquifer it is drawing from (although the total depth implies the bores may be accessing the Lower Waiwhetu aquifer).

## Query 3:

PDP stated that water is currently abstracted from the main bore with some supply from the back-up bore. Please could you confirm if the current groundwater consent allows for this pumping regime? I would have thought the current consent only allows for pumping from one bore, the main bore.

Under what conditions is the back-up bore used? If water is currently abstracted from the main bore with some supply from the back-up bore, and this is at a time where abstraction requirements are at their lowest as Unilever have significantly reduced their needs for groundwater. Then what will happen when PPGs new clients want to use the full consented pump rate? Wouldn't both bores be required to meet this need. I would therefore conclude that the second bore is not a back-up bore at all. I would expect both bores would require their own resource consents for a stated groundwater take.

Is it because the main bore well efficiency is not able to provide the groundwater rate required. PDP have included the pump capacity curves for one of the two surface-mounted pumps, which are understood by PDP to be identical. The surface-mounted pump is more than capable of abstracting the requested groundwater take.

### Query 5:

These calculations are okay and I agree with PDPs conclusions.

## Query 6:

PDPs discussion looks fine to me.

## Query 7:

Kirsty, did Mark or some one else ask *if PDP could relate a 0.09m drawdown at McEwan Park to an equivalent amount of abstraction from the Waterloo wellfield?* This was not my question. I wanted to know whether PDP could determine what the pump rate and correlating pressure head (or water level) would be in the Unilever main bore for the three trigger levels in GWRC monitoring well R27/0122 (McEwan Park), namely 2.5m amsl, 2.3m amsl and 2.0m amsl. Did Mark or GWRC think this method may not be appropriate or easily defendable given the masking effect by the Waterloo Well Field?

## Query 9:

PDPs has clarified their point.

## Query 10:

PDP has amended graphs. PDPs spreadsheet will be more accurate to check the numbers, than my trying to check using low resolution graphs. They just didn't look quite right to me. Anywho.....

## Query 11:

PDPs comment and inclusion of a more appropriate graph has sorted out this issue.

## Query 12:

PDP clarified they were trying to say the masking effects by Waterloo Borefield makes it very difficult to determine whether water levels in monitoring bore R27/0122 were recovering partly due to a decrease in Unilever's abstraction rate. PDP are saying reduced abstractions in the Unilever bore probably did contribute to that recovery in a small way, but it is not seen due to the masking effect of the Waterloo Borefield.

Kirsty, I am away Mon 7 until Fri 11 Sept with school camp. I will have my cell phone with me but I am not sure how good cell phone coverage will be. I will contact you on Monday mid-morning to make sure you have no further questions for me.

Kind regards, Andrea

On Tue, Aug 25, 2015 at 5:07 PM, Andrea Broughton wrote:

Hi Kirsty

That's so funny! Will do.

Kind regards, Andrea

On 25/08/2015 3:54 PM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

You must have sensed that this was coming! See attached response from Ian Leary. I've also attached my letter which they cross reference.

Would you be able to have a look at this and let me know if they have answered your questions, and whether you have further questions or concerns.

The application is still on hold while they get written approval from Wellington Water but if you could come back to me by 7 Sep that would be great.

Let me know if you want me to send you a copy of anything else.

Thanks

Kirsty

From: Andrea Broughton [mailton
Sent: Tuesday, 25 August 2015 1:47 p.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

Thank you for the update and I will look forward to receiving their response.

Kind regards,

Andrea

On Tue, Aug 25, 2015 at 1:43 PM, Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I spoke with the consultant last Friday and it sounded like they were putting a response together that they would submit soon, once I receive it I will send it through for you to have a look at.

Regards

Kirsty

From: Andrea Broughton [mailto Sent: Tuesday, 25 August 2015 1:32 p.m.

**To:** Kirsty van Reenen **Subject:** Re: WGN160011 Unilever water take renewal

# Hi Kirsty

I thought it would be timely to check in with you regarding my comments on Chris Woodhouse, PDP, report on Unilever site?

Has he sent through a reply and/or additional information?

Kind regards,

Andrea

On Wed, Jul 22, 2015 at 10:59 PM, Andrea Broughton

wrote:

Hi Kirsty

Further to my email earlier today please see my comments regarding the PDP EIS report below. I have provided quite a bit of detail but I thought that given GWRC have not assessed any of Chris Woodhouse's work before it was warranted.

Your questions to me were:

• Is the application, in particular the PDP report, fit for purpose? Are there information gaps or areas that need further clarification to fully understand the effects of the proposed water take? Generally the PDP report is fit for purpose. Please see my comments below.

• The Waiwhetu Aquifer is a significant resource in terms of providing water for public water supply. Wellington Water hold consents to take water for public water supply from the aquifer and have expressed an interest in this application (although a decision on affected persons has not yet been made).

Do you agree with the assessment of effects on the bulk water supply abstraction? Yes.

In particular, during periods of high water demand both bulk water and the applicant will likely be drawing their full allocation, what risks are there in terms of the aquifer pressure dropping, saline intrusion and the ability of bulk water to be able to continue to abstract water for public water supply during these periods. I think there could be a risk of the 'stand-by' trigger being activated more often but this is based on PDPs conservative estimates (which is quite appropriate). It will be hard though to determine what contribution Unilever bores will have to that drawdown given Waterloo Borefield abstractions appear to mask other bore drawdown effects (90% Waterloo vs 3% Unilever).

Should we place restrictions on this applicants consent to protect the ability for bulk water to abstract water during periods of high water demand? Yes, if it is practical. Please see my comments below. However, how will GWRC know the trigger has been breached by Waterloo alone but Unilever gets the ramp down not Waterloo?

The current consent includes a condition (condition 4 of WGN070193 [25890] in the attachments to the application) which required the consent holder to comply with abstraction limits directed by Wellington Regional Council. We would prefer the condition to be more specific about restrictions (i.e. reduction or cease take when aquifer pressure gets to certain levels) to avoid the consent holder trying to counter argue a direction by WRC, do you have any suggestions for appropriate restrictions. Could a correlation be made between the Unilever pumping bores abstraction rate and groundwater pressure head, and bore R27/0122 trigger levels of 2.5m amsl, 2.3m asml and 2.0m amsl? Maybe Mark could work this out using the Hutt Groundwater Model?? Or should we ask PDP to do this? This may require PDP to undertake pump tests on the abstraction bores. I am unsure how this could be done given the Waterloo Borefield could breach the trigger levels without any input by Unilever (Waterloo Borefield abstractions seem to masks drawdown effects by the Unilever bore(s)).

• Do you agree with the applicants assessment of effects on other nearby groundwater users, including the Shandon Golf Club? Yes

• Do you agree with the assessment of effects on the Hutt River? Yes

• Water permits are generally granted for a period of 10 years. The applicant has sought a consent duration of 35 years, do you have any comments on consent duration? Are there any uncertainties about effects of the abstraction that would warrant a consent of less than 35 years? I think 35 years should be okay if the consent conditions are tight and there is always a clause in there allowing GWRC to alter conditions (as you already do) especially if any scientific evidence comes to light that requires the model to be altered.

• Any other comments See my comments below

We haven't reviewed any work by Chris Woodhouse before so would be interested in what you think about his assessment. Give me a call if you have any questions or need any further info. As I mentioned above...I have provided a bit of detail on my assessment of Chris Woodhouse's work so that you can get a feel for how he has done. I think overall his work is okay, maybe a bit sloppy with ensuring his graphs actually represent what he is saying.....

## COMMENTS

1. Overall the report addresses all the important issues and PDP took on board Mark's advice.

2. T and S were set at a conservative 28,000 m<sup>2</sup>/day and 6.4 x  $10^{-4}$ , respectively. These values were derived from Mark's hydraulic conductivity of 1400 m/day and specific storage of 3.2 x  $10^{-5}$  m<sup>-1</sup>, and assuming a minimum aquifer thickness of 20m. These values along with a pumping rate of 2543 m<sup>3</sup>/day.

3. PDP state that at present, fluctuations in pumping rate at Waterloo have the most significant influence on 24-hour mean water levels in monitoring well R27/0122.

4. Drawdown is expected to be 1.99 m after 365 days pumping at the maximum consented rate from the Waterloo wellfield. The expected drawdown due to pumping at the proposed maximum rate from the Unilever site is expected to be no more than 0.09 m after 365 days. A hypothetical scenario was considered by PDP whereby 0.09 m of drawdown was applied to the historical groundwater level hydrograph for monitoring well R27/0122. This assessment indicates that the stand-by level would have been breached on five occasions since 2001. However, the alert level would not have been triggered. PDP say this drawdown effect is local and will not increase the risk of saline intrusion in the Waiwhetu aquifer. Did PDP check the groundwater level in Somes Island monitoring bore R27/1171 to see if the hydraulic gradient was reversed for the five breached occasions? PDP conclude by saying it is possible that the proposed abstraction could occasionally contribute to trigger levels being breached.

PDP state that this assessment is conservative, because Unilever were pumping during this time, albeit at a reduced rate, and therefore some drawdown at R27/0122 was already occurring. This means the same drawdown is counted twice.

5. Unilever is just 4 % of the maximum drawdown expected from the Waterloo wellfield. This is an insignificant amount relative to water level fluctuations, which are primarily influenced by GWRC bulk supply abstraction and recharge.

6. PDP state 'Figure 4 shows a graph of Unilever abstraction data, together with groundwater levels in R27/0122, and monthly rainfall. This figure shows that there is no obvious recovery in groundwater levels in the monitoring well in response to the decreasing rate of abstraction through time.'

This appears to be true however from 2001, when only the Waterloo Borefield was operated, the Unilever pump rate decreased from 750 m<sup>3</sup>/day. This is significantly lower pumping rate than the proposed pumping rate of 2543 m<sup>3</sup>/day and I don't believe you can use Fig 4 to show evidence the Unilever bore has no effect on R27/0122

PDP use Figures 5 and 6 to compare daily Unilever abstractions to groundwater levels in R27/0122 during the first and second halves of 1996, when abstraction from the Unilever site was at its highest (1383  $m^3$ /day). The axis on both graphs are mis-labelled as monthly abstraction when they are actually meant to be daily abstraction. The daily abstraction values, when converted to monthly values, do not reconcile with monthly abstraction values and trends presented for 1996 in Figure 4. PDP again state there are no obvious correlation between decreases in groundwater level and increases in pumping rate, implying that the effect of pumping from the Unilever site on R27/0122 is minimal. This does appear to be the case.

7. Figure 7: I definitely agree with PDP that the Waterloo Borefield abstraction data from Jan-June 2014 does show a distinct relationship where increasing abstraction caused decreasing groundwater levels in R27/0122. Curious that PDP say Waterloo Borefield abstraction levels reach up to 99,710 m<sup>3</sup>/day. The highest rate seen in Figure 7 is ~78,000 m<sup>3</sup>/day.

8. Figure 9 is interesting. PDP say pumping at Unilever decreased significantly after March 1978 (as seen in Figure 8). PDP say that between 1971 and 1978 pumping was from Gear Island only and together with Unilever pumping at rates mostly between 2000 and up to 4000 m3/day there was considerable drawdown at R27/0122. The standby, intrusion alert and intrusion minimum level of 2.0m amsl were breached on a number of occasions. PDP go on to say that when abstraction was significantly decreased in Unilever bore in March 1978 they would expect to see a recovery in groundwater pressures in R27/0122 which they say doesn't occur.

I disagree, the groundwater pressures do recover between 1978 and 1981 with Unilever's decreasing take. The stand-by level was breeched just once in this period of time and that was a particularly dry year (also we don't know if the Waterloo Borefield increased their pumping rate). After 1981 and the move from Gear Island to Waterloo Borefield groundwater pressures in R27/0122 continued to recover. It would have been helpful if the Waterloo Borefield abstraction data was also on this graph. I have only seen Waterloo Borefield abstraction data for Jan-June 2014 in this EIS report.

PDP conclude that drawdown effects should be greater when Gear Island and Unilever were operating at their highest pumping rates, than when Unilever and Waterloo bores are pumped. I agree.

9. PDP mention on page 13 of the EIS that small reversals in hydraulic gradient occurred 23 times (max head difference of -0.11m). They say these are isolated and well correlated with an increase in bulk water supply abstraction which caused the groundwater levels to decrease abruptly.

10. There will be less than minor stream depletion effects due to the high Waiwhetu aquifer transmissivities and 25-30m of Petone Marine Bed aquitard overlying the Waiwhetu aquifer.

11. Could a correlation be made between the Unilever pumping bores abstraction rate and groundwater pressure head, and bore R27/0122 trigger levels of 2.5m amsl, 2.3m asml and 2.0m amsl? Maybe Mark could work this out using the Hutt Groundwater Model?? Or should we ask PDP to do this? This may require PDP to undertake pump tests on the abstraction bores. I am unsure how this could be done given the Waterloo Borefield could breach the trigger levels without any input by Unilever (Waterloo Borefield abstractions seem to masks drawdown effects by the Unilever bore(s)).

If it can be done, then I suggest GWRC use these groundwater pressure head 'trigger levels 'in the Unilever bore(s) as part of the consent condition

12. PDP say if the consent conditions are tight then 35 years should be okay, especially if the Hutt Groundwater Model might not be looked at again for a similar period of time. I presume the Hutt Groundwater Model is a Class 3 model as outlined by *Australian groundwater modelling guidelines*, Waterlines report, National Water Commission, Canberra (Barnett et al, 2012)? Is it likely the Hutt Groundwater Model will be looked at again within 35 years?

13. With reference to PDP's statement 'small, isolated reversals in the hydraulic gradients occur in response to abrupt increases in abstraction from GWRC's Waterloo wellfield. Two of the last three reversals have been caused by an increase in abstraction from the Waterloo wellfield above GWRC's consented volume.' Were there any changes in the EC levels? Have there ever been any changes seen in EC levels at the monitoring bore R27/0122?

If you have any further questions or clarifications just drop me a line or give me a call.

Kind regards,

Andrea.

On Wed, Jul 22, 2015 at 11:00 AM, Andrea Broughton

wrote:

# Hi Kirsty

PDP have taken on board Mark's comments and have presented their drawdown calculations at saline intrusion monitoring bore R27/0122, that being 0.09m which is based on conservative aquifer values (as well as other resource users i.e. Shandon Golf Club). In order to be conservative, PDP have used the values of 28,000 m2/day, and 6.4 x 10-4 for the drawdown assessments. They say these values have been derived from the calibrated hydraulic parameters used in the most recent Hutt Aquifer Model (HAM3) numerical model developed for GWRC by Gyopari (2014). Calibrated values for the Upper Waiwhetu aquifer were 1400 m/day and 3.2 x 10-5 m-1 for hydraulic conductivity and specific storage, respectively. Using the most conservative (smallest) thickness of the Upper Waiwhetu aquifer of 20 m results gives values of 28,000 m2/day, and 6.4 x 10-4 for the transmissivity and storativity respectively.

PDP show hydrographs indicating fluctuations in water level in the monitoring wells have been controlled by GWRC bulk water supply abstraction and say these mask any effect of abstraction by Unilever. It is expected that this will continue, and drawdown in the closest saline intrusion monitoring well, R27/0122, as a result of the proposed take is not expected to exceed 0.09 m (calculated using Theiss equation. I calculated the same value using Jacobs equation. I calculated if they pump non-stop for 35 years the drawdown will only be 0.12m. This is unrealistic because the pumping bores will stop for holidays which I would allow the aquifer to recover but to pre-pumping levels).

Abstraction at the rate of 2,543 m3/day from the Unilever site could cause the existing stand-by level of 2.5 m amsl to be breached more regularly, although no significant increase in risk of saline intrusion would actually occur.

With respect to....' GWRC should consider saline intrusion mitigation conditions consistent with those applied to the bulk water consents – but updated to reflect the recent saline intrusion mitigation recommendations provided in the HAM3 study. PDP suggest 'GWRC consider decreasing the stand-by level at R27/0122 to 2.45m amsl. This would prevent the local effect from this take from influencing groundwater abstraction elsewhere in the Lower Hutt GMZ, and would not increase the risk of saline intrusion in the Waiwhetu aquifer.'

I think they maybe correct on this last point but I think that depends on the level of uncertainty around the 2.5m amsl? Three factors have to occur before groundwater takes are ramp down, that being, water level and EC in saline intrusion monitoring bores, and hydraulic gradient in monitoring well pairs. So we are not relying heavily on the 2.5m amsl trigger level and it has been breeched plenty of times without there being a reversal in hydraulic gradient and increases in EC levels. It is therefore really the inconvenience to all involved when the stand-by level of 2.5m is breeched.

Analysis by PDP 'shows that small, isolated reversals in the hydraulic gradients occur in response to abrupt increases in abstraction from GWRC's Waterloo wellfield. Two of the last three reversals have been caused by an increase in abstraction from the Waterloo wellfield above GWRC's consented volume.' I understand there were no changes in the EC levels? Recent groundwater flow modelling commissioned by GWRC suggests that the sustainable groundwater abstraction for this GMZ is 36.5 x 106 m3/year (Gyopari, 2014).Were these abstractions from Waterloo above the revised allocation level?

PDP propose that a 7-day mean hydraulic gradient is used between monitoring wells R27/0122 and R27/1171 in the monitoring framework. They say this will prevent small, isolated reversals caused by abstraction from the Waterloo wellfield from disrupting groundwater users in the Lower Hutt groundwater management zone. Please could you ask Mark what he thinks about this suggestion?

PDP suggest 'to be consistent with the proposed saline intrusion management framework, a series of conditions are applied to the proposed abstraction. These conditions would involve progressive reduction in pumping from the Applicant's bores as the level of risk increases. Given current conditions, these measures will be sufficient to protect against the risk of saline intrusion.' I agree with this idea but think we need to co-relate the pressure level in monitoring bore R27/0122 wrt the actual groundwater pressure head in the ex Unilever pumping bore (s) at

known pumping rates. I would think a bore pump test is required to determine this so these rates are meaningful and useful. Does Mark agree?

Effects on neighbouring groundwater bores and stream depletion will be minimal, owing to the relatively high transmissivity of the Waiwhetu aquifer and the protection afforded by the overlying ~30m Petone Marine Beds. Drawdown at Shandon Golf Course is approximately 0.08m (i got 0.09m).

I need to fly now but on my return I will go through HAM2 report with a view to thinking about consent conditions. However, in the meantime if you could run the above by Mark I would appreciate it.

Cheers,

Andrea

On Wed, Jul 22, 2015 at 10:11 AM, Andrea Broughton

Hi Kirsty

I was going to say we need to talk to Mark, as he has set the limits for the Hutt Groundwater Zone. I looked on the application to see if PDP had communications with Mark, but it only said you and Jeremy, which is why I was going to suggest discussing with Mark.

wrote:

PDP have made a suggestion for conditions so I will check against Mark's suggestions. So hold off talking to Mark until I look at it all.

Cheers, Andrea

On 22/07/2015 9:57 AM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I asked Mark Gyopari to provide some advice about the type of assessment we would require in this application – I've copied his comments below. These comments were passed on to the applicant prior to them preparing the application. Have all these points been covered off in the PDP report? If not, we can go back to them and ask for it. Maybe we need to have a chat with Mark?

Hi Kirsty,

Regarding the Unilever pre-application advice:

1. I do not think that it is necessary to undertake any additional physical bore testing or fieldwork to support this consent renewal. The Waiwhetu Aquifer in this area is very well characterised.

2. It may be worth the Applicant undertaking basic drawdown assessments using updated aquifer parameters (derived from the 2104 HAM3 modelling study) and anticipated maximum daily pumping rates over a realistic duration. We are particularly interested in the drawdown effect on the McEwan Park saline intrusion monitoring well and how this might impact on resource availability (including public water supply) during prolonged stressed (drought) periods when aquifer levels approach saline intrusion triggers .

3. Water use monitoring provided by Unilever (2012-2015) shows that actual water use has been considerably less than the consented quantity. The monitoring data show that the 7-day usage has not exceed about 5 % of the allocated amount (17,800m<sup>3</sup>). In general, over the last 3 years, monthly usage has been at most 5-6% of the allocated monthly volume (71,200m<sup>3</sup>) - the highest monthly use being about 4,000m<sup>3</sup> for May 2012. The monthly use was consistently less than 2,000m<sup>3</sup> in 2014 (less than 3% of the allocation). Water use monitoring data therefore suggests that the current water allocation significantly exceeds the Applicants requirements. Given the very high value of this resource for public water supply, clarification and justification of the volume of water sought is required. (

4. GWRC should consider saline intrusion mitigation conditions consistent with those applied to the bulk water consents – but updated to reflect the recent saline intrusion mitigation recommendations provided in the HAM3 study.

## Regards

Mark

Dr Mark Gyopari

Earth in Mind Limited

From: Andrea Broughton [mailton
Sent: Wednesday, 22 July 2015 9:27 a.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

I have now finished reading through PDPs EIS and PPG application with a fine tooth comb. I have a number of comments to make but I have a full day today and might not get a chance to sit at my desk. I will get comments to you by tomorrow.

In the meantime, I am concerned at the lack of bore data. Firstly there are three bores. Am I right in thinking this consent covers only the two bores located right next to each other? There have been no pump tests and there are no borelogs, although I am relying on a GWRC Gear Island bore on the property, and no management plan of how the three bores are really going to be used. If I am going to suggest conditions on PPG consent I would think it best to base it around water pressure in the bore relative to water pressure in the saline monitoring bore R27:0122. I can't do this without understanding drawdown vs abstraction rate in the bores. I will expand on this in my comments later today/tomorrow.
For anyone else I would be asking for a pump test, these folk are no exception. I know there are plenty of T and S values from Mark Gs work but we would still expect a 24 hour pump test wouldn't we?

Cheers, Andrea

On 20/07/2015 2:52 PM, "Andrea Broughton" wrote:

Hi Kirsty

Thanks for your email. Unfortunately, I just missed your call earlier.

I am reading through PDP report and will get back to you tomorrow if I require any further information.

Cheers,

Andrea

On Mon, Jul 20, 2015 at 2:27 PM, Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

Thanks for looking at this one, my list of questions for your assessment are below:

• Is the application, in particular the PDP report, fit for purpose? Are there information gaps or areas that need further clarification to fully understand the effects of the proposed water take?

• The Waiwhetu Aquifer is a significant resource in terms of providing water for public water supply. Wellington Water hold consents to take water for public water supply from the aquifer and have expressed an interest in this application (although a decision on affected persons has not yet been made). Do you agree with the assessment of effects on the bulk water supply abstraction? in particular, during periods of high water demand both bulk water and the applicant will likely be drawing their full allocation, what risks are there in terms of the aquifer pressure dropping, saline intrusion and the ability of bulk water to be able to continue to abstract water for public water supply during these periods. Should we place restrictions on this applicants consent to protect the ability for bulk water to abstract water during periods of high water demand? The current consent includes a condition (condition 4 of WGN070193 [25890] in the attachments to the application) which required the consent holder to comply with abstraction limits directed by Wellington Regional Council. We would prefer the condition to be more specific about restrictions (i.e. reduction or cease take when aquifer pressure gets to certain levels) to avoid the consent holder trying to counter argue a direction by WRC, do you have any suggestions for appropriate restrictions.

• Do you agree with the applicants assessment of effects on other nearby groundwater users, including the Shandon Golf Club?

• Do you agree with the assessment of effects on the Hutt River?

• Water permits are generally granted for a period of 10 years. The applicant has sought a consent duration of 35 years, do you have any comments on consent duration? Are there any uncertainties about effects of the abstraction that would warrant a consent of less than 35 years?

• Any other comments

We haven't reviewed any work by Chris Woodhouse before so would be interested in what you think about his assessment. Give me a call if you have any questions or need any further info.

Thanks

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Shed 39, 2 Fryatt Quay, Pipitea, Wellington

PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** <u>www.gw.govt.nz</u>

From: Andrea Broughton [mailto:
Sent: Friday, 17 July 2015 12:23 p.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

I hope my son was polite!

I do have time and I will do a quick skip read through the document over weekend. I will look forward to hearing from you on Monday. I will be available after 11am.

Cheers, Andrea

On 17/07/2015 12:15 PM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I spoke with your son this morning who said you were out so I thought I would email you and will give you a call on Monday to discuss. I'm processing an application for the renewal of a water take from the Lower Hutt Groundwater Zone (old Unilever site). They are applying for the same abstraction limits (up to 929,000m3/year) but have applied for a long term consent and Wellington Water have indicated that they have an interest in the application (although I'm not sure they will be an affected party). The applicant has engaged Chris Woodhouse from PDP to undertake an assessment of effects on Saline intrusion risk, drawdown effects on neighbouring takes, stream depletion effects and subsistence. Do you have capacity to undertake a review of this assessment over the next couple of weeks? If you do, I'll fire through my list of questions on Monday.

I've attached a copy of the application so you can see the size of the report (sorry it's a large document!).

Have a good weekend

#### Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Shed 39, 2 Fryatt Quay, Pipitea, Wellington

PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** www.gw.govt.nz

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------ Forwarded message ------From: Ian Leary To: Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> Cc: Date: Tue, 25 Aug 2015 01:47:19 +0000 Subject: Unilever - S92 Response

Kirsty,

Please find attached the s92 response for this application.

Regards

Ian Leary Director - Survey and Planning SpencerHolmes Limited

PO Box 588, Wellington 6140 Level 6, 8 Willis Street, Wellington 6011

**P** 04-472-2261 **F** 04-471-2372

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# **Ainslee Brown**

From: Sent: To: Subject: Andrea Broughton Wednesday, 22 July 2015 10:11 AM Kirsty van Reenen RE: WGN160011 Unilever water take renewal

Hi Kirsty

I was going to say we need to talk to Mark, as he has set the limits for the Hutt Groundwater Zone. I looked on the application to see if PDP had communications with Mark, but it only said you and Jeremy, which is why I was going to suggest discussing with Mark.

PDP have made a suggestion for conditions so I will check against Mark's suggestions. So hold off talking to Mark until I look at it all.

Cheers, Andrea

On 22/07/2015 9:57 AM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I asked Mark Gyopari to provide some advice about the type of assessment we would require in this application – I've copied his comments below. These comments were passed on to the applicant prior to them preparing the application. Have all these points been covered off in the PDP report? If not, we can go back to them and ask for it. Maybe we need to have a chat with Mark?

Hi Kirsty,

Regarding the Unilever pre-application advice:

1. I do not think that it is necessary to undertake any additional physical bore testing or fieldwork to support this consent renewal. The Waiwhetu Aquifer in this area is very well characterised.

2. It may be worth the Applicant undertaking basic drawdown assessments using updated aquifer parameters (derived from the 2104 HAM3 modelling study) and anticipated maximum daily pumping rates over a realistic duration. We are particularly interested in the drawdown effect on the McEwan Park saline intrusion monitoring well and how this might impact on resource availability (including public water supply) during prolonged stressed (drought) periods when aquifer levels approach saline intrusion triggers .

3. Water use monitoring provided by Unilever (2012-2015) shows that actual water use has been considerably less than the consented quantity. The monitoring data show that the 7-day usage has not exceed about 5 % of the allocated amount (17,800m<sup>3</sup>). In general, over the last 3 years, monthly usage has been at most 5-6% of the allocated monthly volume (71,200m<sup>3</sup>) - the highest monthly use being about 4,000m<sup>3</sup> for May 2012. The monthly

use was consistently less than 2,000m<sup>3</sup> in 2014 (less than 3% of the allocation). Water use monitoring data therefore suggests that the current water allocation significantly exceeds the Applicants requirements. Given the very high value of this resource for public water supply, clarification and justification of the volume of water sought is required. (

4. GWRC should consider saline intrusion mitigation conditions consistent with those applied to the bulk water consents – but updated to reflect the recent saline intrusion mitigation recommendations provided in the HAM3 study.

Regards

Mark

Dr Mark Gyopari

Earth in Mind Limited

From: Andrea Broughton [mailto Sent: Wednesday, 22 July 2015 9:27 a.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

I have now finished reading through PDPs EIS and PPG application with a fine tooth comb. I have a number of comments to make but I have a full day today and might not get a chance to sit at my desk. I will get comments to you by tomorrow.

In the meantime, I am concerned at the lack of bore data. Firstly there are three bores. Am I right in thinking this consent covers only the two bores located right next to each other? There have been no pump tests and there are no borelogs, although I am relying on a GWRC Gear Island bore on the property, and no management plan of how the three bores are really going to be used. If I am going to suggest conditions on PPG consent I would think it best to base it around water pressure in the bore relative to water pressure in the saline monitoring bore R27:0122. I can't do this without understanding drawdown vs abstraction rate in the bores. I will expand on this in my comments later today/tomorrow.

For anyone else I would be asking for a pump test, these folk are no exception. I know there are plenty of T and S values from Mark Gs work but we would still expect a 24 hour pump test wouldn't we?

Cheers, Andrea

On 20/07/2015 2:52 PM, "Andrea Broughton"

Hi Kirsty

wrote:

Thanks for your email. Unfortunately, I just missed your call earlier.

I am reading through PDP report and will get back to you tomorrow if I require any further information.

Cheers,

Andrea

On Mon, Jul 20, 2015 at 2:27 PM, Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

Thanks for looking at this one, my list of questions for your assessment are below:

• Is the application, in particular the PDP report, fit for purpose? Are there information gaps or areas that need further clarification to fully understand the effects of the proposed water take?

• The Waiwhetu Aquifer is a significant resource in terms of providing water for public water supply. Wellington Water hold consents to take water for public water supply from the aquifer and have expressed an interest in this application (although a decision on affected persons has not yet been made). Do you agree with the assessment of effects on the bulk water supply abstraction? in particular, during periods of high water demand both bulk water and the applicant will likely be drawing their full allocation, what risks are there in terms of the aquifer pressure dropping, saline intrusion and the ability of bulk water to be able to continue to abstract water for public water supply during these periods. Should we place restrictions on this applicants consent to protect the ability for bulk water to abstract water during periods of high water demand? The current consent includes a condition (condition 4 of WGN070193 [25890] in the attachments to the application) which required the consent holder to comply with abstraction limits directed by Wellington Regional Council. We would prefer the condition to be more specific about restrictions (i.e. reduction or cease take when aquifer pressure gets to certain levels) to avoid the consent holder trying to counter argue a direction by WRC, do you have any suggestions for appropriate restrictions.

• Do you agree with the applicants assessment of effects on other nearby groundwater users, including the Shandon Golf Club?

• Do you agree with the assessment of effects on the Hutt River?

• Water permits are generally granted for a period of 10 years. The applicant has sought a consent duration of 35 years, do you have any comments on consent duration? Are there any uncertainties about effects of the abstraction that would warrant a consent of less than 35 years?

• Any other comments

We haven't reviewed any work by Chris Woodhouse before so would be interested in what you think about his assessment. Give me a call if you have any questions or need any further info.

Thanks

# Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Shed 39, 2 Fryatt Quay, Pipitea, Wellington

PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** www.gw.govt.nz

From: Andrea Broughton [mailto
Sent: Friday, 17 July 2015 12:23 p.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

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Cheers, Andrea

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I've attached a copy of the application so you can see the size of the report (sorry it's a large document!).

#### Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

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# **Ainslee Brown**

From:	Kirsty van Reenen	
Sent:	Tuesday, 25 August 2015 3:54 PM	
То:	'Andrea Broughton'	
Subject:	RE: WGN160011 Unilever water take renewal	
Attachments:	Unilever - S92 Response; WGN_DOCS-#1510215-v1-s92(1)_&_ 95E_letter_WGN160011_Prime_Property_Ltd.PDF	

Hi Andrea,

You must have sensed that this was coming! See attached response from Ian Leary. I've also attached my letter which they cross reference.

Would you be able to have a look at this and let me know if they have answered your questions, and whether you have further questions or concerns.

The application is still on hold while they get written approval from Wellington Water but if you could come back to me by 7 Sep that would be great.

Let me know if you want me to send you a copy of anything else.

Thanks Kirsty

From: Andrea Broughton [mailto Sent: Tuesday, 25 August 2015 1:47 p.m. To: Kirsty van Reenen Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

Thank you for the update and I will look forward to receiving their response.

Kind regards, Andrea

On Tue, Aug 25, 2015 at 1:43 PM, Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I spoke with the consultant last Friday and it sounded like they were putting a response together that they would submit soon, once I receive it I will send it through for you to have a look at.

Regards

Kirsty

From: Andrea Broughton [mailto: Sent: Tuesday, 25 August 2015 1:32 p.m.

# **To:** Kirsty van Reenen **Subject:** Re: WGN160011 Unilever water take renewal

# Hi Kirsty

I thought it would be timely to check in with you regarding my comments on Chris Woodhouse, PDP, report on Unilever site?

Has he sent through a reply and/or additional information?

Kind regards,

Andrea

On Wed, Jul 22, 2015 at 10:59 PM, Andrea Broughton wrote:

Hi Kirsty

Further to my email earlier today please see my comments regarding the PDP EIS report below. I have provided quite a bit of detail but I thought that given GWRC have not assessed any of Chris Woodhouse's work before it was warranted.

Your questions to me were:

• Is the application, in particular the PDP report, fit for purpose? Are there information gaps or areas that need further clarification to fully understand the effects of the proposed water take? Generally the PDP report is fit for purpose. Please see my comments below.

• The Waiwhetu Aquifer is a significant resource in terms of providing water for public water supply. Wellington Water hold consents to take water for public water supply from the aquifer and have expressed an interest in this application (although a decision on affected persons has not yet been made).

Do you agree with the assessment of effects on the bulk water supply abstraction? Yes.

In particular, during periods of high water demand both bulk water and the applicant will likely be drawing their full allocation, what risks are there in terms of the aquifer pressure dropping, saline intrusion and the ability of bulk water to be able to continue to abstract water for public water supply during these periods. I think there could be a risk of the 'stand-by' trigger being activated more often but this is based on PDPs conservative estimates (which is quite appropriate). It will be hard though to determine what contribution Unilever bores will have to that drawdown given Waterloo Borefield abstractions appear to mask other bore drawdown effects (90% Waterloo vs 3% Unilever).

Should we place restrictions on this applicants consent to protect the ability for bulk water to abstract water during periods of high water demand? Yes, if it is practical. Please see my comments below. However, how will GWRC know the trigger has been breached by Waterloo alone but Unilever gets the ramp down not Waterloo?

The current consent includes a condition (condition 4 of WGN070193 [25890] in the attachments to the application) which required the consent holder to comply with abstraction limits directed by Wellington Regional Council. We would prefer the condition to be more specific about restrictions (i.e. reduction or cease take when aquifer pressure gets to certain levels) to avoid the consent holder trying to counter argue a direction by WRC, do you have any suggestions for appropriate restrictions. Could a correlation be made between the Unilever pumping bores abstraction rate and groundwater pressure head, and bore R27/0122 trigger levels of 2.5m amsl, 2.3m asml and 2.0m amsl? Maybe Mark could work this out using the Hutt Groundwater Model?? Or should we ask PDP to do this?

This may require PDP to undertake pump tests on the abstraction bores. I am unsure how this could be done given the Waterloo Borefield could breach the trigger levels without any input by Unilever (Waterloo Borefield abstractions seem to masks drawdown effects by the Unilever bore(s)).

• Do you agree with the applicants assessment of effects on other nearby groundwater users, including the Shandon Golf Club? Yes

• Do you agree with the assessment of effects on the Hutt River? Yes

• Water permits are generally granted for a period of 10 years. The applicant has sought a consent duration of 35 years, do you have any comments on consent duration? Are there any uncertainties about effects of the abstraction that would warrant a consent of less than 35 years? I think 35 years should be okay if the consent conditions are tight and there is always a clause in there allowing GWRC to alter conditions (as you already do) especially if any scientific evidence comes to light that requires the model to be altered.

• Any other comments See my comments below

We haven't reviewed any work by Chris Woodhouse before so would be interested in what you think about his assessment. Give me a call if you have any questions or need any further info. As I mentioned above...I have provided a bit of detail on my assessment of Chris Woodhouse's work so that you can get a feel for how he has done. I think overall his work is okay, maybe a bit sloppy with ensuring his graphs actually represent what he is saying.....

### **COMMENTS**

1. Overall the report addresses all the important issues and PDP took on board Mark's advice.

2. T and S were set at a conservative 28,000 m<sup>2</sup>/day and  $6.4 \times 10^{-4}$ , respectively. These values were derived from Mark's hydraulic conductivity of 1400 m/day and specific storage of  $3.2 \times 10^{-5}$  m<sup>-1</sup>, and assuming a minimum aquifer thickness of 20m. These values along with a pumping rate of 2543 m<sup>3</sup>/day.

3. PDP state that at present, fluctuations in pumping rate at Waterloo have the most significant influence on 24-hour mean water levels in monitoring well R27/0122.

4. Drawdown is expected to be 1.99 m after 365 days pumping at the maximum consented rate from the Waterloo wellfield. The expected drawdown due to pumping at the proposed maximum rate from the Unilever site is expected to be no more than 0.09 m after 365 days. A hypothetical scenario was considered by PDP whereby 0.09 m of drawdown was applied to the historical groundwater level hydrograph for monitoring well R27/0122. This assessment indicates that the stand-by level would have been breached on five occasions since 2001. However, the alert level would not have been triggered. PDP say this drawdown effect is local and will not increase the risk of saline intrusion in the Waiwhetu aquifer. Did PDP check the groundwater level in Somes Island monitoring bore R27/1171 to see if the hydraulic gradient was reversed for the five breached occasions? PDP conclude by saying it is possible that the proposed abstraction could occasionally contribute to trigger levels being breached.

PDP state that this assessment is conservative, because Unilever were pumping during this time, albeit at a reduced rate, and therefore some drawdown at R27/0122 was already occurring. This means the same drawdown is counted twice.

5. Unilever is just 4 % of the maximum drawdown expected from the Waterloo wellfield. This is an insignificant amount relative to water level fluctuations, which are primarily influenced by GWRC bulk supply abstraction and recharge.

6. PDP state 'Figure 4 shows a graph of Unilever abstraction data, together with groundwater levels in R27/0122, and monthly rainfall. This figure shows that there is no obvious recovery in groundwater levels in the monitoring well in response to the decreasing rate of abstraction through time.'

This appears to be true however from 2001, when only the Waterloo Borefield was operated, the Unilever pump rate decreased from 750 m<sup>3</sup>/day. This is significantly lower pumping rate than the proposed pumping rate of 2543 m<sup>3</sup>/day and I don't believe you can use Fig 4 to show evidence the Unilever bore has no effect on R27/0122

PDP use Figures 5 and 6 to compare daily Unilever abstractions to groundwater levels in R27/0122 during the first and second halves of 1996, when abstraction from the Unilever site was at its highest (1383  $m^3$ /day). The axis on both graphs are mis-labelled as monthly abstraction when they are actually meant to be daily abstraction. The daily abstraction values, when converted to monthly values, do not reconcile with monthly abstraction values and trends presented for 1996 in Figure 4. PDP again state there are no obvious correlation between decreases in groundwater level and increases in pumping rate, implying that the effect of pumping from the Unilever site on R27/0122 is minimal. This does appear to be the case.

7. Figure 7: I definitely agree with PDP that the Waterloo Borefield abstraction data from Jan-June 2014 does show a distinct relationship where increasing abstraction caused decreasing groundwater levels in R27/0122. Curious that PDP say Waterloo Borefield abstraction levels reach up to 99,710 m<sup>3</sup>/day. The highest rate seen in Figure 7 is  $^{78}$ ,000 m<sup>3</sup>/day.

8. Figure 9 is interesting. PDP say pumping at Unilever decreased significantly after March 1978 (as seen in Figure 8). PDP say that between 1971 and 1978 pumping was from Gear Island only and together with Unilever pumping at rates mostly between 2000 and up to 4000 m3/day there was considerable drawdown at R27/0122. The stand-by, intrusion alert and intrusion minimum level of 2.0m amsl were breached on a number of occasions. PDP go on to say that when abstraction was significantly decreased in Unilever bore in March 1978 they would expect to see a recovery in groundwater pressures in R27/0122 which they say doesn't occur.

I disagree, the groundwater pressures do recover between 1978 and 1981 with Unilever's decreasing take. The stand-by level was breeched just once in this period of time and that was a particularly dry year (also we don't know if the Waterloo Borefield increased their pumping rate). After 1981 and the move from Gear Island to Waterloo Borefield groundwater pressures in R27/0122 continued to recover. It would have been helpful if the Waterloo Borefield abstraction data was also on this graph. I have only seen Waterloo Borefield abstraction data for Jan-June 2014 in this EIS report.

PDP conclude that drawdown effects should be greater when Gear Island and Unilever were operating at their highest pumping rates, than when Unilever and Waterloo bores are pumped. I agree.

9. PDP mention on page 13 of the EIS that small reversals in hydraulic gradient occurred 23 times (max head difference of -0.11m). They say these are isolated and well correlated with an increase in bulk water supply abstraction which caused the groundwater levels to decrease abruptly .

10. There will be less than minor stream depletion effects due to the high Waiwhetu aquifer transmissivities and 25-30m of Petone Marine Bed aquitard overlying the Waiwhetu aquifer.

11. Could a correlation be made between the Unilever pumping bores abstraction rate and groundwater pressure head, and bore R27/0122 trigger levels of 2.5m amsl, 2.3m asml and 2.0m amsl? Maybe Mark could work this out using the Hutt Groundwater Model?? Or should we ask PDP to do this? This may require PDP to undertake pump tests on the abstraction bores. I am unsure how this could be done given the Waterloo Borefield could breach the trigger levels without any input by Unilever (Waterloo Borefield abstractions seem to masks drawdown effects by the Unilever bore(s)).

If it can be done, then I suggest GWRC use these groundwater pressure head 'trigger levels 'in the Unilever bore(s) as part of the consent condition

12. PDP say if the consent conditions are tight then 35 years should be okay, especially if the Hutt Groundwater Model might not be looked at again for a similar period of time. I presume the Hutt Groundwater Model is a Class 3 model as outlined by *Australian groundwater modelling guidelines*, Waterlines report, National Water Commission, Canberra (Barnett et al, 2012)? Is it likely the Hutt Groundwater Model will be looked at again within 35 years?

13. With reference to PDP's statement 'small, isolated reversals in the hydraulic gradients occur in response to abrupt increases in abstraction from GWRC's Waterloo wellfield. Two of the last three reversals have been caused by an increase in abstraction from the Waterloo wellfield above GWRC's consented volume.' Were there any changes in the EC levels? Have there ever been any changes seen in EC levels at the monitoring bore R27/0122?

If you have any further questions or clarifications just drop me a line or give me a call.

Kind regards,

Andrea.

On Wed, Jul 22, 2015 at 11:00 AM, Andrea Broughton

wrote:

# Hi Kirsty

PDP have taken on board Mark's comments and have presented their drawdown calculations at saline intrusion monitoring bore R27/0122, that being 0.09m which is based on conservative aquifer values (as well as other resource users i.e. Shandon Golf Club). In order to be conservative, PDP have used the values of 28,000 m2/day, and 6.4 x 10-4 for the drawdown assessments. They say these values have been derived from the calibrated hydraulic parameters used in the most recent Hutt Aquifer Model (HAM3) numerical model developed for GWRC by Gyopari (2014). Calibrated values for the Upper Waiwhetu aquifer were 1400 m/day and 3.2 x 10-5 m-1 for hydraulic conductivity and specific storage, respectively. Using the most conservative (smallest) thickness of the Upper Waiwhetu aquifer of 20 m results gives values of 28,000 m2/day, and 6.4 x 10-4 for the transmissivity and storativity respectively.

PDP show hydrographs indicating fluctuations in water level in the monitoring wells have been controlled by GWRC bulk water supply abstraction and say these mask any effect of abstraction by Unilever. It is expected that this will continue, and drawdown in the closest saline intrusion monitoring well, R27/0122, as a result of the proposed take is not expected to exceed 0.09 m (calculated using Theiss equation. I calculated the same value using Jacobs equation. I calculated if they pump non-stop for 35 years the drawdown will only be 0.12m. This is unrealistic because the pumping bores will stop for holidays which I would allow the aquifer to recover but to pre-pumping levels).

Abstraction at the rate of 2,543 m3/day from the Unilever site could cause the existing stand-by level of 2.5 m amsl to be breached more regularly, although no significant increase in risk of saline intrusion would actually occur.

With respect to....' GWRC should consider saline intrusion mitigation conditions consistent with those applied to the bulk water consents – but updated to reflect the recent saline intrusion mitigation recommendations provided in the HAM3 study. PDP suggest 'GWRC consider decreasing the stand-by level at R27/0122 to 2.45m amsl. This would prevent the local effect from this take from influencing groundwater abstraction elsewhere in the Lower Hutt GMZ, and would not increase the risk of saline intrusion in the Waiwhetu aquifer.'

I think they maybe correct on this last point but I think that depends on the level of uncertainty around the 2.5m amsl? Three factors have to occur before groundwater takes are ramp down, that being, water level and EC in saline intrusion monitoring bores, and hydraulic gradient in monitoring well pairs. So we are not relying heavily on the 2.5m amsl trigger level and it has been breeched plenty of times without there being a reversal in hydraulic gradient and increases in EC levels. It is therefore really the inconvenience to all involved when the stand-by level of 2.5m is breeched.

Analysis by PDP 'shows that small, isolated reversals in the hydraulic gradients occur in response to abrupt increases in abstraction from GWRC's Waterloo wellfield. Two of the last three reversals have been caused by an increase in abstraction from the Waterloo wellfield above GWRC's consented volume.'

I understand there were no changes in the EC levels? Recent groundwater flow modelling commissioned by GWRC suggests that the sustainable groundwater abstraction for this GMZ is 36.5 x 106 m3/year (Gyopari, 2014).Were these abstractions from Waterloo above the revised allocation level?

PDP propose that a 7-day mean hydraulic gradient is used between monitoring wells R27/0122 and R27/1171 in the monitoring framework. They say this will prevent small, isolated reversals caused by abstraction from the Waterloo wellfield from disrupting groundwater users in the Lower Hutt groundwater management zone. Please could you ask Mark what he thinks about this suggestion?

PDP suggest 'to be consistent with the proposed saline intrusion management framework, a series of conditions are applied to the proposed abstraction. These conditions would involve progressive reduction in pumping from the Applicant's bores as the level of risk increases. Given current conditions, these measures will be sufficient to protect against the risk of saline intrusion.' I agree with this idea but think we need to co-relate the pressure level in monitoring bore R27/0122 wrt the actual groundwater pressure head in the ex Unilever pumping bore (s) at known

pumping rates. I would think a bore pump test is required to determine this so these rates are meaningful and useful. Does Mark agree?

Effects on neighbouring groundwater bores and stream depletion will be minimal, owing to the relatively high transmissivity of the Waiwhetu aquifer and the protection afforded by the overlying ~30m Petone Marine Beds. Drawdown at Shandon Golf Course is approximately 0.08m (i got 0.09m).

I need to fly now but on my return I will go through HAM2 report with a view to thinking about consent conditions. However, in the meantime if you could run the above by Mark I would appreciate it.

Cheers,

Andrea

On Wed, Jul 22, 2015 at 10:11 AM, Andrea Broughton wrote:

Hi Kirsty

I was going to say we need to talk to Mark, as he has set the limits for the Hutt Groundwater Zone. I looked on the application to see if PDP had communications with Mark, but it only said you and Jeremy, which is why I was going to suggest discussing with Mark.

PDP have made a suggestion for conditions so I will check against Mark's suggestions. So hold off talking to Mark until I look at it all.

Cheers, Andrea

On 22/07/2015 9:57 AM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I asked Mark Gyopari to provide some advice about the type of assessment we would require in this application – I've copied his comments below. These comments were passed on to the applicant prior to them preparing the application. Have all these points been covered off in the PDP report? If not, we can go back to them and ask for it. Maybe we need to have a chat with Mark?

Hi Kirsty,

Regarding the Unilever pre-application advice:

1. I do not think that it is necessary to undertake any additional physical bore testing or fieldwork to support this consent renewal. The Waiwhetu Aquifer in this area is very well characterised.

2. It may be worth the Applicant undertaking basic drawdown assessments using updated aquifer parameters (derived from the 2104 HAM3 modelling study) and anticipated maximum daily pumping rates over a realistic duration. We are particularly interested in the drawdown effect on the McEwan Park saline intrusion monitoring well and how this might impact on resource availability (including public water supply) during prolonged stressed (drought) periods when aquifer levels approach saline intrusion triggers .

3. Water use monitoring provided by Unilever (2012-2015) shows that actual water use has been considerably less than the consented quantity. The monitoring data show that the 7-day usage has not exceed about 5 % of the allocated amount (17,800m<sup>3</sup>). In general, over the last 3 years, monthly usage has been at most 5-6% of the allocated monthly volume (71,200m<sup>3</sup>) - the highest monthly use being about 4,000m<sup>3</sup> for May 2012. The monthly use was consistently less than 2,000m<sup>3</sup> in 2014 (less than 3% of the allocation). Water use monitoring data therefore suggests that the current water allocation significantly exceeds the Applicants requirements. Given the very high value of this resource for public water supply, clarification and justification of the volume of water sought is required. (

4. GWRC should consider saline intrusion mitigation conditions consistent with those applied to the bulk water consents – but updated to reflect the recent saline intrusion mitigation recommendations provided in the HAM3 study.

Regards

Mark

Dr Mark Gyopari

Earth in Mind Limited

From: Andrea Broughton [mailto Sent: Wednesday, 22 July 2015 9:27 a.m. To: Kirsty van Reenen Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

I have now finished reading through PDPs EIS and PPG application with a fine tooth comb. I have a number of comments to make but I have a full day today and might not get a chance to sit at my desk. I will get comments to you by tomorrow.

In the meantime, I am concerned at the lack of bore data. Firstly there are three bores. Am I right in thinking this consent covers only the two bores located right next to each other? There have been no pump tests and there are no borelogs, although I am relying on a GWRC Gear Island bore on the property, and no management plan of how the three bores are really going to be used. If I am going to suggest conditions on PPG consent I would think it best to base it around water pressure in the bore relative to water pressure in the saline monitoring bore R27:0122. I can't do this without understanding drawdown vs abstraction rate in the bores. I will expand on this in my comments later today/tomorrow.

For anyone else I would be asking for a pump test, these folk are no exception. I know there are plenty of T and S values from Mark Gs work but we would still expect a 24 hour pump test wouldn't we?

Cheers, Andrea

On 20/07/2015 2:52 PM, "Andrea Broughton" > wrote:

Hi Kirsty

Thanks for your email. Unfortunately, I just missed your call earlier.

I am reading through PDP report and will get back to you tomorrow if I require any further information.

Cheers,

Andrea

On Mon, Jul 20, 2015 at 2:27 PM, Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

Thanks for looking at this one, my list of questions for your assessment are below:

• Is the application, in particular the PDP report, fit for purpose? Are there information gaps or areas that need further clarification to fully understand the effects of the proposed water take?

• The Waiwhetu Aquifer is a significant resource in terms of providing water for public water supply. Wellington Water hold consents to take water for public water supply from the aquifer and have expressed an interest in this application (although a decision on affected persons has not yet been made). Do you agree with the assessment of effects on the bulk water supply abstraction? in particular, during periods of high water demand both bulk water and the applicant will likely be drawing their full allocation, what risks are there in terms of the aquifer pressure dropping, saline intrusion and the ability of bulk water to be able to continue to abstract water for public water supply during these periods. Should we place restrictions on this applicants consent to protect the ability for bulk water to abstract water during periods of high water demand? The current consent includes a condition (condition 4 of WGN070193 [25890] in the attachments to the application) which required the consent holder to comply with abstraction limits directed by Wellington Regional Council. We would prefer the condition to be more specific about restrictions (i.e. reduction or cease take when aquifer pressure gets to certain levels) to avoid the consent holder trying to counter argue a direction by WRC, do you have any suggestions for appropriate restrictions.

• Do you agree with the applicants assessment of effects on other nearby groundwater users, including the Shandon Golf Club?

• Do you agree with the assessment of effects on the Hutt River?

• Water permits are generally granted for a period of 10 years. The applicant has sought a consent duration of 35 years, do you have any comments on consent duration? Are there any uncertainties about effects of the abstraction that would warrant a consent of less than 35 years?

• Any other comments

We haven't reviewed any work by Chris Woodhouse before so would be interested in what you think about his assessment. Give me a call if you have any questions or need any further info.

Thanks

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Shed 39, 2 Fryatt Quay, Pipitea, Wellington

PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** www.gw.govt.nz

From: Andrea Broughton [mailto: Sent: Friday, 17 July 2015 12:23 p.m. To: Kirsty van Reenen Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

I hope my son was polite!

I do have time and I will do a quick skip read through the document over weekend. I will look forward to hearing from you on Monday. I will be available after 11am.

Cheers, Andrea

On 17/07/2015 12:15 PM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I spoke with your son this morning who said you were out so I thought I would email you and will give you a call on Monday to discuss. I'm processing an application for the renewal of a water take from the Lower Hutt Groundwater Zone (old Unilever site). They are applying for the same abstraction limits (up to 929,000m3/year) but have applied for a long term consent and Wellington Water have indicated that they have an interest in the application (although I'm not sure they will be an affected party). The applicant has engaged Chris Woodhouse from PDP to undertake an assessment of effects on Saline intrusion risk, drawdown effects on neighbouring takes, stream depletion effects and subsistence. Do you have capacity to

undertake a review of this assessment over the next couple of weeks? If you do, I'll fire through my list of questions on Monday.

I've attached a copy of the application so you can see the size of the report (sorry it's a large document!).

Have a good weekend

#### Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Shed 39, 2 Fryatt Quay, Pipitea, Wellington

PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz

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# **Ainslee Brown**

From:	Andrea Broughton
Sent:	Monday, 7 September 2015 12:08 PM
То:	Kirsty van Reenen
Subject:	RE: WGN160011 Unilever water take renewal

Thanks Kirsty

If Wellington Water and GWRC are happy with that condition alteration then that's fine. I just suggested my condition because GWRC wanted a more concrete condition that couldn't necessarily be argued with. I think it would be good to have this info but PDP might not be able to achieve it at this point in time.

Thank god we are in the Sounds now. 4m swells in the Straits and it seemed like half the boat was sick, as well as myself, lol!

Cheers, Andrea

On 7/09/2015 11:58 AM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Thanks Andrea,

No problem, I will go back to them with a couple of further questions. I was just wondering whether I should be asking them if they could determine what the pump rate and correlating pressure head (or water level) would be in the Unilever main bore for the three trigger levels in GWRC monitoring well R27/0122 (McEwan Park), namely 2.5m amsl, 2.3m amsl and 2.0 amsl (this must have got missed from my letter)?

Wellington Water have provided their written approval to the application subject to a small change to one of the suggested conditions. The condition requires that when the level in the aquifer gets to +2.3m they must comply with abstraction restrictions as directed by GWRC. Wellington Water have asked that a sentence be included in this conditions stating that priority will be given to public water supply.

Thanks

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Shed 39, 2 Fryatt Quay, Pipitea, Wellington

PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** www.gw.govt.nz From: Andrea Broughton [mailto
Sent: Monday, 7 September 2015 11:52 a.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

### Hi Kirsty

I hope you get this email as cell coverage is not good. I didn't catch all of your message sorry. Mark did make that comment I queried? That's fine.

Cheers, Andrea

On 4/09/2015 5:48 PM, "Andrea Broughton"

wrote:

#### Hi Kirsty

I have looked over your letter to PPG, and PPG & PDP's response to my/our questions. I am happy with PDPs responses. However, my main concerns are:

- 1. The lack of bore construction details (especially the screen interval).
- 2. The pumping scenario involving the main bore and 'back-up' bore (see comments under Query 3).

My comments on PDPs responses are as follows:

#### Query 2:

I am relieved to see that there is only one bore in the main pit!

I agree with PDP that this main bore and the backup bore are likely to be R27/1167 and R27/1168, and they are located incorrectly in Shandon Golf Club given the bore owners name being Lever Bros. However, which bore is the main bore and which bore is the back up bore is unknown given the bore logs and bore construction details are lost.

PDP has said they are unable to dip the bore to confirm the bore depths due to the configuration of the bore headworks. However, we need to also know that screened interval of this bore to confirm which aquifer this bore is abstracting from. I suggest to you that PPG should look to undertake geophysical wire line logging investigations to determine the bore construction details and any geological data that can be gathered from the steel cased borehole. PPG must understand that GWRC can not give consent to abstract groundwater from a borehole where they don't even know exactly which aquifer it is drawing from (although the total depth implies the bores may be accessing the Lower Waiwhetu aquifer).

#### Query 3:

PDP stated that water is currently abstracted from the main bore with some supply from the back-up bore. Please could you confirm if the current groundwater consent allows for this pumping regime? I would have thought the current consent only allows for pumping from one bore, the main bore.

Under what conditions is the back-up bore used? If water is currently abstracted from the main bore with some supply from the back-up bore, and this is at a time where abstraction requirements are at their lowest as Unilever

have significantly reduced their needs for groundwater. Then what will happen when PPGs new clients want to use the full consented pump rate? Wouldn't both bores be required to meet this need. I would therefore conclude that the second bore is not a back-up bore at all. I would expect both bores would require their own resource consents for a stated groundwater take.

Is it because the main bore well efficiency is not able to provide the groundwater rate required. PDP have included the pump capacity curves for one of the two surface-mounted pumps, which are understood by PDP to be identical. The surface-mounted pump is more than capable of abstracting the requested groundwater take.

### Query 5:

These calculations are okay and I agree with PDPs conclusions.

### Query 6:

PDPs discussion looks fine to me.

### Query 7:

Kirsty, did Mark or some one else ask *if PDP could relate a 0.09m drawdown at McEwan Park to an equivalent amount of abstraction from the Waterloo wellfield?* This was not my question. I wanted to know whether PDP could determine what the pump rate and correlating pressure head (or water level) would be in the Unilever main bore for the three trigger levels in GWRC monitoring well R27/0122 (McEwan Park), namely 2.5m amsl, 2.3m amsl and 2.0m amsl. Did Mark or GWRC think this method may not be appropriate or easily defendable given the masking effect by the Waterloo Well Field?

### Query 9:

PDPs has clarified their point.

### Query 10:

PDP has amended graphs. PDPs spreadsheet will be more accurate to check the numbers, than my trying to check using low resolution graphs. They just didn't look quite right to me. Anywho.....

### Query 11:

PDPs comment and inclusion of a more appropriate graph has sorted out this issue.

### Query 12:

PDP clarified they were trying to say the masking effects by Waterloo Borefield makes it very difficult to determine whether water levels in monitoring bore R27/0122 were recovering partly due to a decrease in Unilever's abstraction rate. PDP are saying reduced abstractions in the Unilever bore probably did contribute to that recovery in a small way, but it is not seen due to the masking effect of the Waterloo Borefield.

Kirsty, I am away Mon 7 until Fri 11 Sept with school camp. I will have my cell phone with me but I am not sure how good cell phone coverage will be. I will contact you on Monday mid-morning to make sure you have no further questions for me.

Kind regards, Andrea

On Tue, Aug 25, 2015 at 5:07 PM, Andrea Broughton

> wrote:

Hi Kirsty

That's so funny! Will do.

Kind regards, Andrea

On 25/08/2015 3:54 PM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

You must have sensed that this was coming! See attached response from Ian Leary. I've also attached my letter which they cross reference.

Would you be able to have a look at this and let me know if they have answered your questions, and whether you have further questions or concerns.

The application is still on hold while they get written approval from Wellington Water but if you could come back to me by 7 Sep that would be great.

Let me know if you want me to send you a copy of anything else.

Thanks

Kirsty

From: Andrea Broughton [mailto: Sent: Tuesday, 25 August 2015 1:47 p.m. To: Kirsty van Reenen Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

Thank you for the update and I will look forward to receiving their response.

Kind regards,

Andrea

On Tue, Aug 25, 2015 at 1:43 PM, Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I spoke with the consultant last Friday and it sounded like they were putting a response together that they would submit soon, once I receive it I will send it through for you to have a look at.

Regards

Kirsty

From: Andrea Broughton [mailto: Sent: Tuesday, 25 August 2015 1:32 p.m.

**To:** Kirsty van Reenen **Subject:** Re: WGN160011 Unilever water take renewal

Hi Kirsty

I thought it would be timely to check in with you regarding my comments on Chris Woodhouse, PDP, report on Unilever site? Has he sent through a reply and/or additional information?

Kind regards,

Andrea

On Wed, Jul 22, 2015 at 10:59 PM, Andrea Broughton

wrote:

Hi Kirsty

Further to my email earlier today please see my comments regarding the PDP EIS report below. I have provided quite a bit of detail but I thought that given GWRC have not assessed any of Chris Woodhouse's work before it was warranted.

Your questions to me were:

• Is the application, in particular the PDP report, fit for purpose? Are there information gaps or areas that need further clarification to fully understand the effects of the proposed water take? Generally the PDP report is fit for purpose. Please see my comments below.

• The Waiwhetu Aquifer is a significant resource in terms of providing water for public water supply. Wellington Water hold consents to take water for public water supply from the aquifer and have expressed an interest in this application (although a decision on affected persons has not yet been made).

Do you agree with the assessment of effects on the bulk water supply abstraction? Yes.

In particular, during periods of high water demand both bulk water and the applicant will likely be drawing their full allocation, what risks are there in terms of the aquifer pressure dropping, saline intrusion and the ability of bulk water to be able to continue to abstract water for public water supply during these periods. I think there could be a risk of the 'stand-by' trigger being activated more often but this is based on PDPs conservative estimates (which is quite appropriate). It will be hard though to determine what contribution Unilever bores will have to that drawdown given Waterloo Borefield abstractions appear to mask other bore drawdown effects (90% Waterloo vs 3% Unilever).

Should we place restrictions on this applicants consent to protect the ability for bulk water to abstract water during periods of high water demand? Yes, if it is practical. Please see my comments below. However, how will GWRC know the trigger has been breached by Waterloo alone but Unilever gets the ramp down not Waterloo?

The current consent includes a condition (condition 4 of WGN070193 [25890] in the attachments to the application) which required the consent holder to comply with abstraction limits directed by Wellington Regional Council. We would prefer the condition to be more specific about restrictions (i.e. reduction or cease take when aquifer pressure gets to certain levels) to avoid the consent holder trying to counter argue a direction by WRC, do you have any suggestions for appropriate restrictions. Could a correlation be made between the Unilever pumping bores abstraction rate and groundwater pressure head, and bore R27/0122 trigger levels of 2.5m amsl, 2.3m asml and 2.0m amsl? Maybe Mark could work this out using the Hutt Groundwater Model?? Or should we ask PDP to do this? This may require PDP to undertake pump tests on the abstraction bores. I am unsure how this could be done given the Waterloo Borefield could breach the trigger levels without any input by Unilever (Waterloo Borefield abstractions seem to masks drawdown effects by the Unilever bore(s)).

• Do you agree with the applicants assessment of effects on other nearby groundwater users, including the Shandon Golf Club? Yes

• Do you agree with the assessment of effects on the Hutt River? Yes

• Water permits are generally granted for a period of 10 years. The applicant has sought a consent duration of 35 years, do you have any comments on consent duration? Are there any uncertainties about effects of the abstraction that would warrant a consent of less than 35 years? I think 35 years should be okay if the consent conditions are tight and there is always a clause in there allowing GWRC to alter conditions (as you already do) especially if any scientific evidence comes to light that requires the model to be altered.

• Any other comments See my comments below

We haven't reviewed any work by Chris Woodhouse before so would be interested in what you think about his assessment. Give me a call if you have any questions or need any further info. As I mentioned above...I have provided a bit of detail on my assessment of Chris Woodhouse's work so that you can get a feel for how he has done. I think overall his work is okay, maybe a bit sloppy with ensuring his graphs actually represent what he is saying.....

# COMMENTS

1. Overall the report addresses all the important issues and PDP took on board Mark's advice.

2. T and S were set at a conservative 28,000 m<sup>2</sup>/day and 6.4 x  $10^{-4}$ , respectively. These values were derived from Mark's hydraulic conductivity of 1400 m/day and specific storage of  $3.2 \times 10^{-5} \text{ m}^{-1}$ , and assuming a minimum aquifer thickness of 20m. These values along with a pumping rate of 2543 m<sup>3</sup>/day.

3. PDP state that at present, fluctuations in pumping rate at Waterloo have the most significant influence on 24-hour mean water levels in monitoring well R27/0122.

4. Drawdown is expected to be 1.99 m after 365 days pumping at the maximum consented rate from the Waterloo wellfield. The expected drawdown due to pumping at the proposed maximum rate from the Unilever site is expected to be no more than 0.09 m after 365 days. A hypothetical scenario was considered by PDP whereby 0.09 m of drawdown was applied to the historical groundwater level hydrograph for monitoring well R27/0122. This assessment indicates that the stand-by level would have been breached on five occasions since

2001. However, the alert level would not have been triggered. PDP say this drawdown effect is local and will not increase the risk of saline intrusion in the Waiwhetu aquifer. Did PDP check the groundwater level in Somes Island monitoring bore R27/1171 to see if the hydraulic gradient was reversed for the five breached occasions? PDP conclude by saying it is possible that the proposed abstraction could occasionally contribute to trigger levels being breached.

PDP state that this assessment is conservative, because Unilever were pumping during this time, albeit at a reduced rate, and therefore some drawdown at R27/0122 was already occurring. This means the same drawdown is counted twice.

5. Unilever is just 4 % of the maximum drawdown expected from the Waterloo wellfield. This is an insignificant amount relative to water level fluctuations, which are primarily influenced by GWRC bulk supply abstraction and recharge.

6. PDP state 'Figure 4 shows a graph of Unilever abstraction data, together with groundwater levels in R27/0122, and monthly rainfall. This figure shows that there is no obvious recovery in groundwater levels in the monitoring well in response to the decreasing rate of abstraction through time.'

This appears to be true however from 2001, when only the Waterloo Borefield was operated, the Unilever pump rate decreased from 750 m<sup>3</sup>/day. This is significantly lower pumping rate than the proposed pumping rate of 2543 m<sup>3</sup>/day and I don't believe you can use Fig 4 to show evidence the Unilever bore has no effect on R27/0122

PDP use Figures 5 and 6 to compare daily Unilever abstractions to groundwater levels in R27/0122 during the first and second halves of 1996, when abstraction from the Unilever site was at its highest (1383 m<sup>3</sup>/day). The axis on both graphs are mis-labelled as monthly abstraction when they are actually meant to be daily abstraction. The daily abstraction values, when converted to monthly values, do not reconcile with monthly abstraction values and trends presented for 1996 in Figure 4. PDP again state there are no obvious correlation between decreases in groundwater level and increases in pumping rate, implying that the effect of pumping from the Unilever site on R27/0122 is minimal. This does appear to be the case.

7. Figure 7: I definitely agree with PDP that the Waterloo Borefield abstraction data from Jan-June 2014 does show a distinct relationship where increasing abstraction caused decreasing groundwater levels in R27/0122. Curious that PDP say Waterloo Borefield abstraction levels reach up to 99,710 m<sup>3</sup>/day. The highest rate seen in Figure 7 is ~78,000 m<sup>3</sup>/day.

8. Figure 9 is interesting. PDP say pumping at Unilever decreased significantly after March 1978 (as seen in Figure 8). PDP say that between 1971 and 1978 pumping was from Gear Island only and together with Unilever pumping at rates mostly between 2000 and up to 4000 m3/day there was considerable drawdown at R27/0122. The standby, intrusion alert and intrusion minimum level of 2.0m amsl were breached on a number of occasions. PDP go on

to say that when abstraction was significantly decreased in Unilever bore in March 1978 they would expect to see a recovery in groundwater pressures in R27/0122 which they say doesn't occur.

I disagree, the groundwater pressures do recover between 1978 and 1981 with Unilever's decreasing take. The stand-by level was breeched just once in this period of time and that was a particularly dry year (also we don't know if the Waterloo Borefield increased their pumping rate). After 1981 and the move from Gear Island to Waterloo Borefield groundwater pressures in R27/0122 continued to recover. It would have been helpful if the Waterloo Borefield abstraction data was also on this graph. I have only seen Waterloo Borefield abstraction data for Jan-June 2014 in this EIS report.

PDP conclude that drawdown effects should be greater when Gear Island and Unilever were operating at their highest pumping rates, than when Unilever and Waterloo bores are pumped. I agree.

9. PDP mention on page 13 of the EIS that small reversals in hydraulic gradient occurred 23 times (max head difference of -0.11m). They say these are isolated and well correlated with an increase in bulk water supply abstraction which caused the groundwater levels to decrease abruptly.

10. There will be less than minor stream depletion effects due to the high Waiwhetu aquifer transmissivities and 25-30m of Petone Marine Bed aquitard overlying the Waiwhetu aquifer.

11. Could a correlation be made between the Unilever pumping bores abstraction rate and groundwater pressure head, and bore R27/0122 trigger levels of 2.5m amsl, 2.3m asml and 2.0m amsl? Maybe Mark could work this out using the Hutt Groundwater Model?? Or should we ask PDP to do this? This may require PDP to undertake pump tests on the abstraction bores. I am unsure how this could be done given the Waterloo Borefield could breach the trigger levels without any input by Unilever (Waterloo Borefield abstractions seem to masks drawdown effects by the Unilever bore(s)).

If it can be done, then I suggest GWRC use these groundwater pressure head 'trigger levels 'in the Unilever bore(s) as part of the consent condition

12. PDP say if the consent conditions are tight then 35 years should be okay, especially if the Hutt Groundwater Model might not be looked at again for a similar period of time. I presume the Hutt Groundwater Model is a Class 3 model as outlined by *Australian groundwater modelling guidelines*, Waterlines report, National Water Commission, Canberra (Barnett et al, 2012)? Is it likely the Hutt Groundwater Model will be looked at again within 35 years?

13. With reference to PDP's statement 'small, isolated reversals in the hydraulic gradients occur in response to abrupt increases in abstraction from GWRC's Waterloo wellfield. Two of the last three reversals have been caused by an increase in abstraction from the Waterloo wellfield above GWRC's consented volume.' Were there any

changes in the EC levels? Have there ever been any changes seen in EC levels at the monitoring bore R27/0122?

If you have any further questions or clarifications just drop me a line or give me a call.

Kind regards,

Andrea.

On Wed, Jul 22, 2015 at 11:00 AM, Andrea Broughton

wrote:

# Hi Kirsty

PDP have taken on board Mark's comments and have presented their drawdown calculations at saline intrusion monitoring bore R27/0122, that being 0.09m which is based on conservative aquifer values (as well as other resource users i.e. Shandon Golf Club). In order to be conservative, PDP have used the values of 28,000 m2/day, and 6.4 x 10-4 for the drawdown assessments. They say these values have been derived from the calibrated hydraulic parameters used in the most recent Hutt Aquifer Model (HAM3) numerical model developed for GWRC by Gyopari (2014). Calibrated values for the Upper Waiwhetu aquifer were 1400 m/day and 3.2 x 10-5 m-1 for hydraulic conductivity and specific storage, respectively. Using the most conservative (smallest) thickness of the Upper Waiwhetu aquifer of 20 m results gives values of 28,000 m2/day, and 6.4 x 10-4 for the transmissivity and storativity respectively.

PDP show hydrographs indicating fluctuations in water level in the monitoring wells have been controlled by GWRC bulk water supply abstraction and say these mask any effect of abstraction by Unilever. It is expected that this will continue, and drawdown in the closest saline intrusion monitoring well, R27/0122, as a result of the proposed take is not expected to exceed 0.09 m (calculated using Theiss equation. I calculated the same value using Jacobs equation. I calculated if they pump non-stop for 35 years the drawdown will only be 0.12m. This is unrealistic because the pumping bores will stop for holidays which I would allow the aquifer to recover but to pre-pumping levels).

Abstraction at the rate of 2,543 m3/day from the Unilever site could cause the existing stand-by level of 2.5 m amsl to be breached more regularly, although no significant increase in risk of saline intrusion would actually occur.

With respect to....' GWRC should consider saline intrusion mitigation conditions consistent with those applied to the bulk water consents – but updated to reflect the recent saline intrusion mitigation recommendations provided in the HAM3 study. PDP suggest 'GWRC consider decreasing the stand-by level at R27/0122 to 2.45m amsl. This would prevent the local effect from this take from influencing groundwater abstraction elsewhere in the Lower Hutt GMZ, and would not increase the risk of saline intrusion in the Waiwhetu aquifer.'

I think they maybe correct on this last point but I think that depends on the level of uncertainty around the 2.5m amsl? Three factors have to occur before groundwater takes are ramp down, that being, water level and EC in saline intrusion monitoring bores, and hydraulic gradient in monitoring well pairs. So we are not relying heavily on the 2.5m amsl trigger level and it has been breeched plenty of times without there being a reversal in hydraulic gradient and increases in EC levels. It is therefore really the inconvenience to all involved when the stand-by level of 2.5m is breeched.

Analysis by PDP 'shows that small, isolated reversals in the hydraulic gradients occur in response to abrupt increases in abstraction from GWRC's Waterloo wellfield. Two of the last three reversals have been caused by an

increase in abstraction from the Waterloo wellfield above GWRC's consented volume.' I understand there were no changes in the EC levels? Recent groundwater flow modelling commissioned by GWRC suggests that the sustainable groundwater abstraction for this GMZ is 36.5 x 106 m3/year (Gyopari, 2014).Were these abstractions from Waterloo above the revised allocation level?

PDP propose that a 7-day mean hydraulic gradient is used between monitoring wells R27/0122 and R27/1171 in the monitoring framework. They say this will prevent small, isolated reversals caused by abstraction from the Waterloo wellfield from disrupting groundwater users in the Lower Hutt groundwater management zone. Please could you ask Mark what he thinks about this suggestion?

PDP suggest 'to be consistent with the proposed saline intrusion management framework, a series of conditions are applied to the proposed abstraction. These conditions would involve progressive reduction in pumping from the Applicant's bores as the level of risk increases. Given current conditions, these measures will be sufficient to protect against the risk of saline intrusion.' I agree with this idea but think we need to co-relate the pressure level in monitoring bore R27/0122 wrt the actual groundwater pressure head in the ex Unilever pumping bore (s) at known pumping rates. I would think a bore pump test is required to determine this so these rates are meaningful and useful. Does Mark agree?

Effects on neighbouring groundwater bores and stream depletion will be minimal, owing to the relatively high transmissivity of the Waiwhetu aquifer and the protection afforded by the overlying ~30m Petone Marine Beds. Drawdown at Shandon Golf Course is approximately 0.08m (i got 0.09m).

I need to fly now but on my return I will go through HAM2 report with a view to thinking about consent conditions. However, in the meantime if you could run the above by Mark I would appreciate it.

Cheers,

Andrea

On Wed, Jul 22, 2015 at 10:11 AM, Andrea Broughton

Hi Kirsty

I was going to say we need to talk to Mark, as he has set the limits for the Hutt Groundwater Zone. I looked on the application to see if PDP had communications with Mark, but it only said you and Jeremy, which is why I was going to suggest discussing with Mark.

wrote:

PDP have made a suggestion for conditions so I will check against Mark's suggestions. So hold off talking to Mark until I look at it all.

Cheers, Andrea

On 22/07/2015 9:57 AM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I asked Mark Gyopari to provide some advice about the type of assessment we would require in this application – I've copied his comments below. These comments were passed on to the applicant prior to them preparing the application. Have all these points been covered off in the PDP report? If not, we can go back to them and ask for it. Maybe we need to have a chat with Mark?

Hi Kirsty,

Regarding the Unilever pre-application advice:

1. I do not think that it is necessary to undertake any additional physical bore testing or fieldwork to support this consent renewal. The Waiwhetu Aquifer in this area is very well characterised.

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4. GWRC should consider saline intrusion mitigation conditions consistent with those applied to the bulk water consents – but updated to reflect the recent saline intrusion mitigation recommendations provided in the HAM3 study.

Regards

Mark

Dr Mark Gyopari

Earth in Mind Limited

From: Andrea Broughton [mailto:
Sent: Wednesday, 22 July 2015 9:27 a.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

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We haven't reviewed any work by Chris Woodhouse before so would be interested in what you think about his assessment. Give me a call if you have any questions or need any further info.

Thanks

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Shed 39, 2 Fryatt Quay, Pipitea, Wellington

PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** www.gw.govt.nz

From: Andrea Broughton [mailto:
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To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

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I've attached a copy of the application so you can see the size of the report (sorry it's a large document!).

Have a good weekend

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------ Forwarded message ------From: Ian Leary To: Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> Cc: Date: Tue, 25 Aug 2015 01:47:19 +0000 Subject: Unilever - S92 Response

Kirsty,

Please find attached the s92 response for this application.

Regards

Ian Leary Director - Survey and Planning SpencerHolmes Limited

PO Box 588, Wellington 6140 Level 6, 8 Willis Street, Wellington 6011

 www.spencerholmes.co.nz

 DDI
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From:	Andrea Broughton
Sent:	Wednesday, 22 July 2015 9:27 AM
To:	Kirsty van Reenen
Subject:	Re: WGN160011 Unilever water take renewal
Follow Up Flag:	Follow up
Flag Status:	Completed

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PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** www.gw.govt.nz

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Sent:	Wednesday, 22 July 2015 9:58 AM
То:	'Andrea Broughton'
Subject:	RE: WGN160011 Unilever water take renewal

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Regards Mark

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From: Sent: To:	Kirsty van Reenen Wednesday, 22 July 2015 1:52 PM
Cc:	'Maree Drury'
Subject:	Draft conditions for consent application from NZOSL discharge of operational water WGN160011
Attachments:	WGN_DOCS-#1509289-v1-Draft_conditions_22_July_2015_WGN160011.DOC; Form-1b-Written-Approval-of-an-Affected-Person (1).pdf

Hi Lee and Diana,

As discussed previously with you, Wellington Water and Port Nicholson Block Settlement Trust are affected persons to this consent application for NZ Oil Services Limited (you were sent a copy of the application in June). Attached are draft consent conditions for your review. These are largely based on consent conditions for the BP site which is also along Port Road and which holds resource consent for a similar activity.

With regard to consent duration, I am recommending a duration of 16 years. The reason for this is to line the expiry date of this consent with the consent for the BP site so they can be assessed at the same time.

I have also attached the written person of an affected person form. If you are happy to provide affected person approval to the proposal can you please sign this form and send me a copy.

Otherwise, please give me a call to discuss any questions or concerns you have about the draft conditions.

Kind Regards

From:	Andrea Broughton
Sent:	Monday, 20 July 2015 2:53 PM
То:	Kirsty van Reenen
Subject:	Re: WGN160011 Unilever water take renewal

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Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Shed 39, 2 Fryatt Quay, Pipitea, Wellington

PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz

From: Andrea Broughton [mailton
Sent: Friday, 17 July 2015 12:23 p.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

I hope my son was polite!

I do have time and I will do a quick skip read through the document over weekend. I will look forward to hearing from you on Monday. I will be available after 11am.

Cheers, Andrea

On 17/07/2015 12:15 PM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I spoke with your son this morning who said you were out so I thought I would email you and will give you a call on Monday to discuss. I'm processing an application for the renewal of a water take from the Lower Hutt Groundwater Zone (old Unilever site). They are applying for the same abstraction limits (up to 929,000m3/year) but have applied for a long term consent and Wellington Water have indicated that they have an interest in the application (although I'm not sure they will be an affected party). The applicant has engaged Chris Woodhouse from PDP to undertake an assessment of effects on Saline intrusion risk, drawdown effects on neighbouring takes, stream depletion effects and subsistence. Do you have capacity to undertake a review of this assessment over the next couple of weeks? If you do, I'll fire through my list of questions on Monday. I've attached a copy of the application so you can see the size of the report (sorry it's a large document!).

Have a good weekend

### Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

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From:	Kirsty van Reenen
Sent:	Tuesday, 28 July 2015 2:00 PM
То:	'Lee Rauhina-August'
Subject:	RE: Draft conditions for consent application from NZOSL discharge of operational water WGN160011
Attachments:	Written approval form PNBST WGN150280.pdf

Hi Lee,

GWRC wouldn't normally notify you if there was a spill/incident on a site like this. I can ask the applicant if they would be willing to notify PNBST when there was an incident or spill on site. This would mean amending conditions 19 and 20 as follows:

19. The consent holder shall notify the Manager, Environmental Regulation, Wellington Regional Council and Port Nicholson Block Settlement Trust of any incident which may have caused a breach of any condition of this permit within 24 hours of the incident occurring.

Note: Notifications must be sent to notifications@gw.govt.nz and lee@portnicholson.org.nz

- 20. In the event of an accidental spill that enters the API separator, the permit holder shall, at the discretion of the Manager, Environmental Regulation, Wellington Regional Council, provide a written report detailing, but not limited to:
  - The nature, manner and cause of the spill;
  - The steps taken to remedy and control the spill; and
  - The steps taken to prevent any future spills of a similar nature

Should this be requested, the information shall be supplied to the Manager, Environmental Regulation, Wellington Regional Council and Port Nicholson Block Settlement Trust, within one week of the incident occurring.

*Note: The intent of this condition is to capture accidental spills on site not spills from everyday operations that enter the separator.* 

Let me know if you would like me to ask the applicant about this.

### Filled out form attached

Regards Kirsty From: Lee Rauhina-August [mailto Sent: Tuesday, 28 July 2015 11:58 a.m. To: Kirsty van Reenen; Cc: Maree Drury Subject: RE: Draft conditions for consent application from NZOSL discharge of operational water WGN160011

Kia ora Kirsty

Thanks for the conversation this morning. I've got minimal concerns on this proposal following on from our chat, but am keen to see whether GW will notify us should anything happen in terms of spills etc.

Also like the last time I will sign the approval form once completed, I will not sign blank forms. I'm heading out to a meeting now, so will wait to receive the completed form and then send it through.

Nāku iti

Lee

### Lee Rauhina-August

Kaiwhakahaere Taiao – Environmental Manager



PORT NICHOLSON BLOCK

Tramways Building 1-3 Thorndon Quay Wellington 6011 PO Box 12164 Wellington 6144



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From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz]

Sent: Wednesday, 22 July 2015 1:52 p.m.

**To:** Lee Rauhina-August <<u>Lee@portnicholson.org.nz</u>>; <u>diana.isaac@wellingtonwater.co.nz</u> **Cc:** Maree Drury <<u>MDrury@burtonconsultants.co.nz</u>>

Subject: Draft conditions for consent application from NZOSL discharge of operational water WGN160011

### Hi Lee and Diana,

As discussed previously with you, Wellington Water and Port Nicholson Block Settlement Trust are affected persons to this consent application for NZ Oil Services Limited (you were sent a copy of the application in June). Attached are draft consent conditions for your review. These are largely based on consent conditions for the BP site which is also along Port Road and which holds resource consent for a similar activity.

With regard to consent duration, I am recommending a duration of 16 years. The reason for this is to line the expiry date of this consent with the consent for the BP site so they can be assessed at the same time.

I have also attached the written person of an affected person form. If you are happy to provide affected person approval to the proposal can you please sign this form and send me a copy.

Otherwise, please give me a call to discuss any questions or concerns you have about the draft conditions.

Kind Regards

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From:	Lee Rauhina-August
Sent:	Tuesday, 28 July 2015 2:47 PM
То:	Kirsty van Reenen
Subject:	RE: Draft conditions for consent application from NZOSL discharge of operational
	water WGN160011

Ok Kirsty if you want to add it to the consent do. I thought that given our strategic partnership with GW, your council could figure out how to inform me after you've been told. I think it would be unusual to ask the applicant to notify us given they have no relationship with us and I don't necessarily think that it should be incumbent on them to do so.

If I wanted to talk to someone at GW about the consenting process and to understand for example why I have to do some approval forms, and then why I don't have to would that be Sonia and/or Jeremy?

### Lee Rauhina-August

Kaiwhakahaere Taiao – Environmental Manager



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From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz] Sent: Tuesday, 28 July 2015 2:00 p.m.

To: Lee Rauhina-August

Subject: RE: Draft conditions for consent application from NZOSL discharge of operational water WGN160011

### Hi Lee,

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Note: The intent of this condition is to capture accidental spills on site not spills from everyday operations that enter the separator.

Let me know if you would like me to ask the applicant about this.

Filled out form attached

Regards Kirsty

From: Lee Rauhina-August [mailto Sent: Tuesday, 28 July 2015 11:58 a.m. To: Kirsty van Reenen; Cc: Maree Drury

Subject: RE: Draft conditions for consent application from NZOSL discharge of operational water WGN160011

Kia ora Kirsty

Thanks for the conversation this morning. I've got minimal concerns on this proposal following on from our chat, but am keen to see whether GW will notify us should anything happen in terms of spills etc.

Also like the last time I will sign the approval form once completed, I will not sign blank forms. I'm heading out to a meeting now, so will wait to receive the completed form and then send it through.

Nāku iti

Lee

**Lee Rauhina-August** Kaiwhakahaere Taiao – Environmental Manager



Tramways Building 1-3 Thorndon Quay Wellington 6011 PO Box 12164 Wellington 6144

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From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz] Sent: Wednesday, 22 July 2015 1:52 p.m.

#### To: Lee Rauhina-August Cc: Maree Drury

Subject: Draft conditions for consent application from NZOSL discharge of operational water WGN160011

### Hi Lee and Diana,

As discussed previously with you, Wellington Water and Port Nicholson Block Settlement Trust are affected persons to this consent application for NZ Oil Services Limited (you were sent a copy of the application in June). Attached are draft consent conditions for your review. These are largely based on consent conditions for the BP site which is also along Port Road and which holds resource consent for a similar activity.

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Kind Regards

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From:	Lee Rauhina-August
Sent:	Tuesday, 28 July 2015 3:41 PM
To:	Kirsty van Reenen
Subject:	RE: Draft conditions for consent application from NZOSL discharge of operational water WGN160011
Attachments:	0726_001.pdf
Follow Up Flag:	Follow up
Flag Status:	Completed

Ka pai Kirsty, thanks for following that up for me. The timing of Sonia being on leave might work out for me too as I've got a number of workshops etc I have to attend over the next two weeks – we'll see how it goes and if not I'll wait till Sons returns.

The signed form attached as discussed.

Nāku anō

Lee

#### Lee Rauhina-August

Kaiwhakahaere Taiao – Environmental Manager



PORT NICHOLSON BLOCK Tramways Building

1-3 Thorndon Quay Wellington 6011 PO Box 12164 Wellington 6144

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From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz] Sent: Tuesday, 28 July 2015 3:19 p.m.

To: Lee Rauhina-August

Subject: RE: Draft conditions for consent application from NZOSL discharge of operational water WGN160011

Hi Lee,

Sonia is happy to meet with you and discuss streamlining the process. She is on leave from tomorrow until the 11<sup>th</sup> of August but if you wanted to meet before then Jeremy will be in the office so feel free to contact him.

Thanks Kirsty

From: Lee Rauhina-August Sent: Tuesday, 28 July 2015 2:47 p.m.

### **To:** Kirsty van Reenen **Subject:** RE: Draft conditions for consent application from NZOSL discharge of operational water WGN160011

Ok Kirsty if you want to add it to the consent do. I thought that given our strategic partnership with GW, your council could figure out how to inform me after you've been told. I think it would be unusual to ask the applicant to notify us given they have no relationship with us and I don't necessarily think that it should be incumbent on them to do so.

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Kaiwhakahaere Taiao – Environmental Manager



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Filled out form attached

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Sent: Tuesday, 28 July 2015 11:58 a.m.
To: Kirsty van Reenen; diana.isaac@wellingtonwater.co.nz
Cc: Maree Drury
Subject: RE: Draft conditions for consent application from NZOSL discharge of operational water WGN160011

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Kaiwhakahaere Taiao – Environmental Manager



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From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz]Sent: Wednesday, 22 July 2015 1:52 p.m.To: Lee Rauhina-August

#### Cc: Maree Drury

Subject: Draft conditions for consent application from NZOSL discharge of operational water WGN160011

### Hi Lee and Diana,

As discussed previously with you, Wellington Water and Port Nicholson Block Settlement Trust are affected persons to this consent application for NZ Oil Services Limited (you were sent a copy of the application in June). Attached are draft consent conditions for your review. These are largely based on consent conditions for the BP site which is also along Port Road and which holds resource consent for a similar activity.

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From:	Maree Drury
Sent:	Wednesday, 29 July 2015 11:39 AM
То:	Kirsty van Reenen
Subject:	RE: Draft conditions for consent application from NZOSL discharge of operational water WGN160011

Thanks Kirsty,

Diana may be confused as to why she is being asked to sign this again as it was a long process getting it signed off the first time. Regards.

Maree

 BURTON
 Maree Drury | Principal Planner

 PO Box 33-817 | Level 1, 2-8 Northcroft Street | Takapuna | Auckland 0740

 Email:

Web: www.burtonconsultants.co.nz

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From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz] Sent: Wednesday, 29 July 2015 11:36 a.m.

To: Maree Drury

Subject: RE: Draft conditions for consent application from NZOSL discharge of operational water WGN160011

Hi Maree,

I have received written approval from Port Nicholson Block Settlement Trust. Diana is currently away and back on Monday so I will follow up with hre then.

Kind Regards Kirsty

From: Kirsty van Reenen Sent: Wednesday, 22 July 2015 1:52 p.m.

#### To: Cc: 'Maree Drury'

Subject: Draft conditions for consent application from NZOSL discharge of operational water WGN160011

### Hi Lee and Diana,

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From:	Andrea Broughton
Sent:	Thursday, 24 September 2015 10:11 AM
То:	Kirsty van Reenen
Subject:	Re: Prime Properties WGN160011 - PDP response to further questions

Hi Kirsty

I agree the abstraction effects will be minor and I do not have any further questions.

Kind regards, Andrea

On Thu, Sep 24, 2015 at 8:14 AM, Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

PDP have provided a response to the further questions I went back to them with (see attached). I have spoken with Doug Mzila regarding the screen depth of the bores and he is confident that they will draw water from the Waiwhetu aquifer > 15m depth.

In terms of effects of the proposed abstraction it seems that these will be no more than minor, do you agree based on the info we have? Or are there further questions we need to ask?

Thanks

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

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----- Forwarded message ------From: Chris Woodhouse <<u>chris.woodhouse@pdp.co.nz</u>> To: Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> Cc: "Ian Leary Date: Wed, 23 Sep 2015 05:30:56 +0000 Subject: Prime Property WGN160011 Review of Further Information

Hi Kirsty,

We have been requested by Ian Leary (copied into this email) to respond to your questions, dated 7<sup>th</sup> September 2015, regarding the Unilever site groundwater take renewal.

Further to our telephone conversation, please find our responses to your questions outlined below:

1. Depth of bores: the further information states that the bore logs and bore construction details have been lost. However, we do need to know the screened interval of the bores to confirm which aquifer the bores are abstracting from. In the Proposed Natural Resources Plan the Waiwhetu Aquifer is divided into several 'groundwater management units' and different allocation limits and minimum low/water level restrictions apply to each depending on depth, connectivity with the Hutt River etc. Can PDP undertake geophysical wire line logging investigations to determine the bore construction details and any geological data that can be gathered from the steel cased borehole? GWRC cannot give consent to abstract groundwater where we don't know exactly which aquifer it is drawing from.

Based on the available information for the bores installed on the Unilever site, PDP consider that the bores take groundwater from a depth of > 15 m. This groundwater would be classed as "Category B" groundwater in accordance with the Proposed Natural Resources Plan. We understand that GWRC have reviewed the available information, and have reached the same conclusion. Further investigations into the depth and screened interval of the bores will therefore not be required.

2. Can you clarify whether the 'back-up bore' will actually be a backup bore as implied in the further information? If the new tenants want to use the full amount of water sought wouldn't both bores need to be running at the max pumping rate to meet this demand? If one bore is to be a backup bore this implies that not all the water sought will be required.

PDP understand that the "back-up bore" will be used as a back-up however, this should be confirmed by the Applicant. Based on information supplied by Unilever, the pumps installed in each bore are capable of abstracting at a volume greater than that requested. Therefore, both bores will not be required to be operating simultaneously during operation.

3. Is it possible for PDP to determine what the pump rate and correlating pressure head (or water level) would be in the main bore for the three trigger levels in GWRC monitoring well R27/0122 (McEwan Park), namely 2.5m amsl, 2.3m amsl and 2.0m amsl?

This calculation would be difficult to perform, because the groundwater system is dynamic in this area, and the primary influences on groundwater levels in the McEwan Park bore are abstraction from the Waterloo borefield, and climatic effects (as was discussed in the original application). An analytical calculation of this kind, would therefore require numerous assumptions and be unreliable. However, the installed pumps are both surface mounted, and if water levels decrease to around 8 m below ground level, the pumps will cease to function. Data from Unilever indicates that abstraction was much greater than the requested rate in the past (see original application) and the bores continued to function. This implies that groundwater levels were above 8 m below ground level. It can therefore be inferred that with the proposed abstraction, groundwater levels would continue to not decrease below this point.

If you have any further questions regarding the above, please do not hesitate to contact me.

Thanks,

Chris

#### Chris Woodhouse MSc | Hydrogeologist

#### PATTLE DELAMORE PARTNERS LTD

Level 1, 111 Customhouse Quay, Wellington 6011

PO Box 6136, Wellington 6141

NEW ZEALAND

Office - <u>+64 4 471 4130</u> | Fax - <u>+64 4 471 4131</u>

Map - Wellington Office | Web - www.pdp.co.nz

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From: Sent:	Murray McLea Monday, 19 October 2015 9:21 AM
То:	Kirsty van Reenen; Doug Mzila
Cc:	Mike Thompson
Subject:	RE: Saline Intrusion
Follow Up Flag:	Follow up
Flag Status:	Completed

#### Hi Kirsty

Just to confirm the minimum level of 1.7m in the Waiwhetu aquifer. We decided to stick with what is in the current RFP after considering the data record. My recollection is that Mark Gyopari was involved in that discussion but we are lacking a note on it. We will check again with Mark, but in the meantime you should assume the minimum in the proposed Plan is correct.

#### Murray

From: Kirsty van ReenenSent: Thursday, 15 October 2015 8:53 a.m.To: Murray McLea; Doug MzilaSubject: Saline Intrusion

Hi,

I've just been looking through Mark Gyopari's report on conjunctive water management for the Hutt Valley and he recommends a trigger level of 2.3m and a minimum level of 2m to prevent saline intrusion in the Waiwhetu Aquifer. But policy 121 in the PNRP has an alert level of 2m and a minimum level of 1.7m. Is this an error or was this changed during submissions on the draft plan?

From: Sent: To: Subject: lan Leary Thursday, 29 October 2015 1:07 PM Kirsty van Reenen RE: Prime Property WGN160011

Thanks for that Kirsty.

I'll sort this ASAP.

Regards

Ian Leary Director - Survey and Planning SpencerHolmes Limited

PO Box 588, Wellington 6140 Level 6, 8 Willis Street, Wellington 6011

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From: Kirsty van Reenen [mailto:Kirsty.vanReenen@gw.govt.nz]
Sent: Thursday, 29 October 2015 11:53 a.m.
To: Ian Leary
Subject: Prime Property WGN160011

Hi lan,

I've had a chat with Jeremy about what we can do given Unilever wont transfer the consent to Prime Property's yet. If you want to renew the existing consent with Unilever as the consent holder we just need something in writing from Unilever saying that they are happy to be the applicant for the consent (not the written approval form). This will need to come from someone at Unilever who has authority to provide this approval.

**Kind Regards** 

Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL *Te Pane Matua Taiao* Shed 39, 2 Fryatt Quay, Pipitea, Wellington PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz

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action in reliance on it and you should delete it from your system and notify the sender immediately. Unless otherwise stated, any views or opinions expressed are solely those of the author, and do not represent those of the organisation.

From: Sent: To: Cc: Subject: Mark Gyopari Thursday, 23 July 2015 1:28 PM Kirsty van Reenen

RE: WGN160011 Unilever water take renewal

#### Hi Kirsty

I've had a read through the application, and also Andrea's comments.

I still have concerns/question/comments:

- 1. The take will affect the McEwan Park saline intrusion monitoring well (potentially around 0.1m). As discussed in the PDP report, it is a key site in the saline intrusion risk management strategy for the Waiwhetu Aquifer. The solution of changing the alert aquifer level from 2.5 to 2.45 to account for the drawdown effect will not solve concerns around its potential impact of on the bulk water supply when restriction are required (2.3m and below). Reductions in take will be required at the discretion of GWRC when the critical 2.3m is reached a loss of 0.1m of available drawdown at McEwan Park will potentially be equivalent to a considerable amount of water at the Waterloo Wellfield if restrictions are required. There is a relatively high degree of confidence in the saline intrusion control levels detailed in the HAM3 report (these were incidentally peer reviewed and closely scrutinised by Peter Callandar of PDP).
- 2. It would be useful if the applicant could relate a 0.1m drawdown at McEwan Park to an equivalent amount of abstraction from the Waterloo wellfield.
- 3. I think that much more consideration needs to be given to determining exactly how the Unilever takes might be restricted during critical stress periods when there is very heavy reliance on the bulk water supply from Waterloo to ensure that it can deliver maximum public supply when it is most needed.
- 4. More of a policy question/comment the consented volume requested is a roll-over from the previous owners for a particular historical use. Neither are now relevant to this application. The new application for the same amount (or renewal?) is for an as yet undetermined use (or uses). There can therefore be no assessment of an efficient use of water, or a demand?

Regards Mark

From: Kirsty van Reenen
Sent: Wednesday, 22 July 2015 11:25 a.m.
To: Mark Gyopari; Mark Gyopari
Subject: FW: WGN160011 Unilever water take renewal

#### Hi Mark,

You provided some pre-app advice on this one. Andrea is now looking at the application and has a couple of questions for you (see her email below). Would you be able to have a look at this and come back to me or have a chat with Andrea? If you want to see the application let me know and ill fire it through.

Thanks Kirsty

From: Andrea Broughton Sent: Wednesday, 22 July 2015 11:01 a.m. To: Kirsty van Reenen Subject: Re: WGN160011 Unilever water take renewal

## Hi Kirsty

PDP have taken on board Mark's comments and have presented their drawdown calculations at saline intrusion monitoring bore R27/0122, that being 0.09m which is based on conservative aquifer values (as well as other resource users i.e. Shandon Golf Club). In order to be conservative, PDP have used the values of 28,000 m2/day, and 6.4 x 10-4 for the drawdown assessments. They say these values have been derived from the calibrated hydraulic parameters used in the most recent Hutt Aquifer Model (HAM3) numerical model developed for GWRC by Gyopari (2014). Calibrated values for the Upper Waiwhetu aquifer were 1400 m/day and 3.2 x 10-5 m-1 for hydraulic conductivity and specific storage, respectively. Using the most conservative (smallest) thickness of the Upper Waiwhetu aquifer of 20 m results gives values of 28,000 m2/day, and 6.4 x 10-4 for the transmissivity and storativity respectively.

PDP show hydrographs indicating fluctuations in water level in the monitoring wells have been controlled by GWRC bulk water supply abstraction and say these mask any effect of abstraction by Unilever. It is expected that this will continue, and drawdown in the closest saline intrusion monitoring well, R27/0122, as a result of the proposed take is not expected to exceed 0.09 m (calculated using Theiss equation. I calculated the same value using Jacobs equation. I calculated if they pump non-stop for 35 years the drawdown will only be 0.12m. This is unrealistic because the pumping bores will stop for holidays which I would allow the aquifer to recover but to pre-pumping levels).

Abstraction at the rate of 2,543 m3/day from the Unilever site could cause the existing stand-by level of 2.5 m amsl to be breached more regularly, although no significant increase in risk of saline intrusion would actually occur.

With respect to....' GWRC should consider saline intrusion mitigation conditions consistent with those applied to the bulk water consents – but updated to reflect the recent saline intrusion mitigation recommendations provided in the HAM3 study. PDP suggest 'GWRC consider decreasing the stand-by level at R27/0122 to 2.45m amsl. This would prevent the local effect from this take from influencing groundwater abstraction elsewhere in the Lower Hutt GMZ, and would not increase the risk of saline intrusion in the Waiwhetu aquifer.'

I think they maybe correct on this last point but I think that depends on the level of uncertainty around the 2.5m amsl? Three factors have to occur before groundwater takes are ramp down, that being, water level and EC in saline intrusion monitoring bores, and hydraulic gradient in monitoring well pairs. So we are not relying heavily on the 2.5m amsl trigger level and it has been breeched plenty of times without there being a reversal in hydraulic gradient and increases in EC levels. It is therefore really the inconvenience to all involved when the stand-by level of 2.5m is breeched.

Analysis by PDP 'shows that small, isolated reversals in the hydraulic gradients occur in response to abrupt increases in abstraction from GWRC's Waterloo wellfield. Two of the last three reversals have been caused by an increase in abstraction from the Waterloo wellfield above GWRC's consented volume.'

I understand there were no changes in the EC levels? Recent groundwater flow modelling commissioned by GWRC suggests that the sustainable groundwater abstraction for this GMZ is 36.5 x 106 m3/year (Gyopari, 2014).Were these abstractions from Waterloo above the revised allocation level?

PDP propose that a 7-day mean hydraulic gradient is used between monitoring wells R27/0122 and R27/1171 in the monitoring framework. They say this will prevent small, isolated reversals caused by abstraction from the Waterloo wellfield from disrupting groundwater users in the Lower Hutt groundwater management zone. Please could you ask Mark what he thinks about this suggestion?

PDP suggest 'to be consistent with the proposed saline intrusion management framework, a series of conditions are applied to the proposed abstraction. These conditions would involve progressive reduction in pumping from the Applicant's bores as the level of risk increases. Given current conditions, these measures will be sufficient to protect against the risk of saline intrusion.' I agree with this idea but think we need to co-relate the pressure level in

monitoring bore R27/0122 wrt the actual groundwater pressure head in the ex Unilever pumping bore (s) at known pumping rates. I would think a bore pump test is required to determine this so these rates are meaningful and useful. Does Mark agree?

Effects on neighbouring groundwater bores and stream depletion will be minimal, owing to the relatively high transmissivity of the Waiwhetu aquifer and the protection afforded by the overlying ~30m Petone Marine Beds. Drawdown at Shandon Golf Course is approximately 0.08m (i got 0.09m).

I need to fly now but on my return I will go through HAM2 report with a view to thinking about consent conditions. However, in the meantime if you could run the above by Mark I would appreciate it.

Cheers, Andrea

On Wed, Jul 22, 2015 at 10:11 AM, Andrea Broughton wrote:

Hi Kirsty

I was going to say we need to talk to Mark, as he has set the limits for the Hutt Groundwater Zone. I looked on the application to see if PDP had communications with Mark, but it only said you and Jeremy, which is why I was going to suggest discussing with Mark.

PDP have made a suggestion for conditions so I will check against Mark's suggestions. So hold off talking to Mark until I look at it all.

Cheers, Andrea

On 22/07/2015 9:57 AM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I asked Mark Gyopari to provide some advice about the type of assessment we would require in this application – I've copied his comments below. These comments were passed on to the applicant prior to them preparing the application. Have all these points been covered off in the PDP report? If not, we can go back to them and ask for it. Maybe we need to have a chat with Mark?

Hi Kirsty,

Regarding the Unilever pre-application advice:

1. I do not think that it is necessary to undertake any additional physical bore testing or fieldwork to support this consent renewal. The Waiwhetu Aquifer in this area is very well characterised.

2. It may be worth the Applicant undertaking basic drawdown assessments using updated aquifer parameters (derived from the 2104 HAM3 modelling study) and anticipated maximum daily pumping rates over a realistic duration. We are particularly interested in the drawdown effect on the McEwan Park saline intrusion monitoring

well and how this might impact on resource availability (including public water supply) during prolonged stressed (drought) periods when aquifer levels approach saline intrusion triggers .

3. Water use monitoring provided by Unilever (2012-2015) shows that actual water use has been considerably less than the consented quantity. The monitoring data show that the 7-day usage has not exceed about 5 % of the allocated amount (17,800m<sup>3</sup>). In general, over the last 3 years, monthly usage has been at most 5-6% of the allocated monthly volume (71,200m<sup>3</sup>) - the highest monthly use being about 4,000m<sup>3</sup> for May 2012. The monthly use was consistently less than 2,000m<sup>3</sup> in 2014 (less than 3% of the allocation). Water use monitoring data therefore suggests that the current water allocation significantly exceeds the Applicants requirements. Given the very high value of this resource for public water supply, clarification and justification of the volume of water sought is required. (

4. GWRC should consider saline intrusion mitigation conditions consistent with those applied to the bulk water consents – but updated to reflect the recent saline intrusion mitigation recommendations provided in the HAM3 study.

Regards

Mark

Dr Mark Gyopari

Earth in Mind Limited

From: Andrea Broughton [mailto:
Sent: Wednesday, 22 July 2015 9:27 a.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

I have now finished reading through PDPs EIS and PPG application with a fine tooth comb. I have a number of comments to make but I have a full day today and might not get a chance to sit at my desk. I will get comments to you by tomorrow.

In the meantime, I am concerned at the lack of bore data. Firstly there are three bores. Am I right in thinking this consent covers only the two bores located right next to each other? There have been no pump tests and there are no borelogs, although I am relying on a GWRC Gear Island bore on the property, and no management plan of how the three bores are really going to be used. If I am going to suggest conditions on PPG consent I would think it best to base it around water pressure in the bore relative to water pressure in the saline monitoring bore R27:0122. I can't do this without understanding drawdown vs abstraction rate in the bores. I will expand on this in my comments later today/tomorrow.

For anyone else I would be asking for a pump test, these folk are no exception. I know there are plenty of T and S values from Mark Gs work but we would still expect a 24 hour pump test wouldn't we?

Cheers, Andrea

On 20/07/2015 2:52 PM, "Andrea Broughton"

wrote:

## Hi Kirsty

Thanks for your email. Unfortunately, I just missed your call earlier.

I am reading through PDP report and will get back to you tomorrow if I require any further information.

Cheers,

Andrea

On Mon, Jul 20, 2015 at 2:27 PM, Kirsty van Reenen <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

### Hi Andrea,

Thanks for looking at this one, my list of questions for your assessment are below:

• Is the application, in particular the PDP report, fit for purpose? Are there information gaps or areas that need further clarification to fully understand the effects of the proposed water take?

• The Waiwhetu Aquifer is a significant resource in terms of providing water for public water supply. Wellington Water hold consents to take water for public water supply from the aquifer and have expressed an interest in this application (although a decision on affected persons has not yet been made). Do you agree with the assessment of effects on the bulk water supply abstraction? in particular, during periods of high water demand both bulk water and the applicant will likely be drawing their full allocation, what risks are there in terms of the aquifer pressure dropping, saline intrusion and the ability of bulk water to be able to continue to abstract water for public water supply during these periods. Should we place restrictions on this applicants consent to protect the ability for bulk water to abstract water during periods of high water demand? The current consent includes a condition (condition 4 of WGN070193 [25890] in the attachments to the application) which required the consent holder to comply with abstraction limits directed by Wellington Regional Council. We would prefer the condition to be more specific about restrictions (i.e. reduction or cease take when aquifer pressure gets to certain levels) to avoid the consent holder trying to counter argue a direction by WRC, do you have any suggestions for appropriate restrictions.

• Do you agree with the applicants assessment of effects on other nearby groundwater users, including the Shandon Golf Club?

• Do you agree with the assessment of effects on the Hutt River?

• Water permits are generally granted for a period of 10 years. The applicant has sought a consent duration of 35 years, do you have any comments on consent duration? Are there any uncertainties about effects of the abstraction that would warrant a consent of less than 35 years?

Any other comments

We haven't reviewed any work by Chris Woodhouse before so would be interested in what you think about his assessment. Give me a call if you have any questions or need any further info.

Thanks

#### Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Shed 39, 2 Fryatt Quay, Pipitea, Wellington

PO Box 11646, Manners St, Wellington 6142 **T: 04 830 4015** <u>www.gw.govt.nz</u>

From: Andrea Broughton [mailton
Sent: Friday, 17 July 2015 12:23 p.m.
To: Kirsty van Reenen
Subject: Re: WGN160011 Unilever water take renewal

Hi Kirsty

I hope my son was polite!

I do have time and I will do a quick skip read through the document over weekend. I will look forward to hearing from you on Monday. I will be available after 11am.

Cheers, Andrea

On 17/07/2015 12:15 PM, "Kirsty van Reenen" <<u>Kirsty.vanReenen@gw.govt.nz</u>> wrote:

Hi Andrea,

I spoke with your son this morning who said you were out so I thought I would email you and will give you a call on Monday to discuss. I'm processing an application for the renewal of a water take from the Lower Hutt Groundwater Zone (old Unilever site). They are applying for the same abstraction limits (up to 929,000m3/year) but have applied for a long term consent and Wellington Water have indicated that they have an interest in the application (although I'm not sure they will be an affected party). The applicant has engaged Chris Woodhouse from PDP to undertake an assessment of effects on Saline intrusion risk, drawdown effects on neighbouring takes, stream depletion effects and subsistence. Do you have capacity to undertake a review of this assessment over the next couple of weeks? If you do, I'll fire through my list of questions on Monday.

I've attached a copy of the application so you can see the size of the report (sorry it's a large document!).

Have a good weekend

### Kirsty van Reenen | Resource Advisor GREATER WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Shed 39, 2 Fryatt Quay, Pipitea, Wellington

PO Box 11646, Manners St, Wellington 6142 T: 04 830 4015 www.gw.govt.nz

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From:	Doug Mzila
Sent:	Thursday, 12 November 2015 10:04 AM
To:	Mike Thompson; Kirsty van Reenen
Cc:	Murray McLea; Mark Gyopari
Subject:	RE: Unilever consent
Follow Up Flag:	Follow up
Flag Status:	Completed

Hi Mike

Nothing really to add. This case is simpler to deal with since PDP recognises the connection between abstractions from any part of the Waiwhetu aquifer and Hutt River. I think what would be good to have an agreement on is the connection between shallow groundwater and the Hutt River in river tidal areas. A stated and also raised at the workshop, essential supplies take precedence over non-essential supplies.

Thanks

Doug

From: Mike Thompson Sent: Thursday, 12 November 2015 9:43 a.m. To: Kirsty van Reenen Cc: Murray McLea; Mark Gyopari Doug Mzila Subject: RE: Unilever consent

**Hi Kirsty** 

I think we established in our chat that low flow conditions to manage any depletion effects associated with the Hutt River at its nearest point to Uniliever would be unnecessary...because the river is tidal in this area.

However, the work Mark G has done with his HAM model also suggests that all takes in the Waiwhetu Aquifer (notwithstanding the 5L/s threshold we apply to exclude very minor takes) are contributing to depletion of the Hutt River in the recharge reach (downstream of Taita Gorge). PDP have recognised this connection in the AEE. Therefore I think it would be prudent to apply the minimum flow restriction criteria in the PNRP (ie, cease take when Hutt River at Birchville falls below 1200 L/s). PDP have suggested that because the Unilever take is very minor compared to the Bulk Water take no regulation is needed. This is a bit short-sighted I think. Our approach under extreme low river flows should be for all non-essential depleting takes (eg, Unilever) to stop and 'essential supplies' to be exercising all possible reductions. At the end of the day, we actually may not have any discretion available to us to not regulate given the PNRP provisions– Murray?

I'd note that the river very rarely gets into a state where regulation might be needed (the minimum flow has not been reached since the 1970s and that may have been due to a more excessive groundwater pumping regime back then). So application of this low flow restriction criteria would have little impact in practice to the Unilever security of supply. Although if minimum flows are revised in the future the Unilever take would obviously be affected.

Murray/Mark/Doug - not sure if you have anything to add/a different view?

Cheers Mike From: Kirsty van ReenenSent: Wednesday, 4 November 2015 2:54 p.m.To: Mike ThompsonSubject: Unilever consent

Hi Mike,

We had a chat a while ago about whether the renewed Unilever water take from the Waiwhetu Aquifer should be subject to low flow conditions given the connectivity to the Hutt River. Have you had any more thoughts about this?

Thanks

From:	Mike Thompson
Sent:	Thursday, 12 November 2015 9:43 AM
То:	Kirsty van Reenen
Cc:	Murray McLea; Mark Gyopari
Subject:	RE: Unilever consent
Follow Up Flag:	Follow up
Flag Status:	Completed

Hi Kirsty

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I'd note that the river very rarely gets into a state where regulation might be needed (the minimum flow has not been reached since the 1970s and that may have been due to a more excessive groundwater pumping regime back then). So application of this low flow restriction criteria would have little impact in practice to the Unilever security of supply. Although if minimum flows are revised in the future the Unilever take would obviously be affected.

Murray/Mark/Doug - not sure if you have anything to add/a different view?

Cheers Mike

From: Kirsty van ReenenSent: Wednesday, 4 November 2015 2:54 p.m.To: Mike ThompsonSubject: Unilever consent

Hi Mike,

We had a chat a while ago about whether the renewed Unilever water take from the Waiwhetu Aquifer should be subject to low flow conditions given the connectivity to the Hutt River. Have you had any more thoughts about this?

Thanks

From:	Kirsty van Reenen
Sent:	Friday, 17 July 2015 11:42 AM
То:	
Subject:	WGN160011 renewal of Unilever water take Lower Hutt
Attachments:	WGN_DOCS-#1507504-v1-
	Application_for_Resource_ConsentPrimeProperty_Group_Limited486 _Jackson_StreetPetoneLower_Hutt.PDF

Hi Kristin,

We have received the application for the transfer and renewal of the Unilever groundwater take in Lower Hutt. The applicant is Prime Property Group Limited – application attached. We are yet to make a decision on s95E affected persons.

It will be good to have a chat with you once you have looked at this to understand Wellington Waters level of interest in this application.

Kind Regards

From:	lan Leary
Sent:	Wednesday, 4 November 2015 1:49 PM
To:	Kirsty van Reenen
Subject:	Unilever - Water Permit
Attachments:	150144 - Email - Unilever Approval to extension to the permit.pdf
Follow Up Flag:	Follow up
Flag Status:	Completed

Kirsty,

As discussed, please find attached correspondence from Unilever to confirm that the extension to the water permit can be issued to Unilever.

Could we see the draft conditions before the water permit is issued so we can send to Unilever for comment.

We trust this will now allow the permit to be issue as sought.

Any questions, please let us know.

Regards

Ian Leary Director - Survey and Planning SpencerHolmes Limited

PO Box 588, Wellington 6140 Level 6, 8 Willis Street, Wellington 6011

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From: "Robertson, Neil A"	
Date: 3 November 2015 6:14:05 pm NZDT	
To: "Wilson, Gerrard @ Wellington"	
Cc: "Pickering, Barry T"	"Newton, David J"
Patricia Green	
'Miles Dean'	

Subject: RE: Prime Property WGN160011

Gerrard,

You may forward this statement onto PP: I advise that Unilever has no objection to the granting of an extension to the water permit, sought by Prime Property Group, submitted to GWRC

We need to ensure that any new conditions do not interfere with our plans for the site up until settlement so we would also wish to approve the application before it is sent into the Council.

Regards, neil

From: Wilson, Gerrard @ Wellington [mailto Sent: Friday, 30 October 2015 10:25 a.m. To: Patricia Green; Robertson, Neil A Cc: Pickering, Barry T Subject: FW: Prime Property WGN160011

Hi Neil / Patricia,

See the email thread below - Neil, if no objections from Patricia, are you able to oblige?

My read is that this is very similar to the workaround that Patricia and I discussed.

Regards Gerrard

Gerrard Wilson | Associate Director CBRE | Global Workplace Solutions Level 12, ASB Tower, 2 Hunter Street PO Box 5053 | Wellington

www.cbre.co.nz

Connect with me on LinkedIn

From: Andrew Monahan [mailto Sent: Friday, 30 October 2015 10:07 a.m. To: Wilson, Gerrard @ Wellington Cc: 'Ian Leary' Subject: FW: Prime Property WGN160011

Hi Gerrard

Further to our recent discussions on the water permit at Unilever please see below correspondence. In short council have agreed to provide us with a new and extended

consent for the water take and have agreed to issue it in the name of Unilever so it can be obtained now and then obviously Unilever will need to assign over to ourselves on settlement.

Please can you obtain a brief statement (by email is fine) along the lines of the below.

Any questions please let me know.

Thanks Andrew

# Andrew Monahan

PRIMEPROPERTY GROUP LIMITED Level 6, Customs House, 17-21 Whitmore Street, Wellington, New Zealand PO Box 11-785, Wellington, New Zealand

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From: Sent: To: Subject: Attachments: Kirsty van Reenen Friday, 17 July 2015 12:13 PM

WGN160011 Unilever water take renewal WGN\_DOCS-#1507504-v1-Application\_for\_Resource\_Consent\_-\_PrimeProperty\_Group\_Limited\_-\_486 \_Jackson\_Street\_\_Petone\_\_Lower\_Hutt.PDF

Hi Andrea,

I spoke with your son this morning who said you were out so I thought I would email you and will give you a call on Monday to discuss. I'm processing an application for the renewal of a water take from the Lower Hutt Groundwater Zone (old Unilever site). They are applying for the same abstraction limits (up to 929,000m3/year) but have applied for a long term consent and Wellington Water have indicated that they have an interest in the application (although I'm not sure they will be an affected party). The applicant has engaged Chris Woodhouse from PDP to undertake an assessment of effects on Saline intrusion risk, drawdown effects on neighbouring takes, stream depletion effects and subsistence. Do you have capacity to undertake a review of this assessment over the next couple of weeks? If you do, I'll fire through my list of questions on Monday.

I've attached a copy of the application so you can see the size of the report (sorry it's a large document!).

Have a good weekend

From:	lan Leary
Sent:	Tuesday, 25 August 2015 1:47 PM
То:	Kirsty van Reenen
Subject:	Unilever - S92 Response
Attachments:	150144c03 - S92 Response.pdf; W0262500L001_S92_Response_Final.pdf
Follow Up Flag:	Follow up
Flag Status:	Completed

Kirsty,

Please find attached the s92 response for this application.

Regards

Ian Leary Director - Survey and Planning SpencerHolmes Limited

PO Box 588, Wellington 6140 Level 6, 8 Willis Street, Wellington 6011

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