Date: Thursday 25 June 2020
Time: 10.00am
Meeting Room: Reception Lounge
Venue: Auckland Town Hall
301-305 Queen Street
Auckland

Tira Kāwana / Governing Body
OPEN MINUTE ITEM ATTACHMENTS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>TABLE OF CONTENTS</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Report from Watercare on Water Shortage</td>
<td></td>
</tr>
</tbody>
</table>

Note: The attachments contained within this document are for consideration and should not be construed as Council policy unless and until adopted. Should Councillors require further information relating to any reports, please contact the relevant manager, Chairperson or Deputy Chairperson.
4 June 2020

Margaret Devlin
Chair
Watercare Services Limited

Via email

Tēnā koe Margaret

Thank you for your presentation on our water shortage issues to Councillors on Tuesday. It was a useful summary of what Watercare is doing to address reducing demand for, and increasing supply of, water in the short term.

However, there are some issues that deeply concern me. While consistent rain may solve the problem and head off a crisis, we need to plan for the worst case scenario of a drier winter and spring, and a summer where lakes run dry and alternative water supplies including from the Waikato provide us with only 200 million litres a day when demand at peak will be above 550 million litres a day.

That scenario has huge implications for our city. A shortfall of 300 million litres a day would result in widespread industry closures, with a huge economic cost, and severe limitations on households’ access to water. That is an unacceptable risk to Auckland and to New Zealand.

There are two urgent matters to address. Firstly, the immediate actions needed to respond to a potential water shortage crisis this summer, and the medium-term actions need to ensure the water supply resilience of the city.

**Immediate Actions**

To date, I have not seen evidence of a clear strategic plan from Watercare to deal with a crisis, should it eventuate. I believe measures to try to head off that crisis are still not sufficient.

The Drought Management Plan produced by Watercare does not seem fit for purpose. Stage one did not outline to me or Council the full range of measures proposed, such as stopping construction companies from drawing water from standpipes. Stage two has so little difference on paper to stage one that I wonder why it exists at all. Stage three does not spell out the specificities of how we might cope with a crisis, and contingency planning for that.

Even if we are saved by higher rainfall, this whole plan needs to be revisited.

We must plan now for what other urgent measures might be needed to deal with the effects of the drought.

In my view, senior officials from both Watercare and Auckland Council need to work together to examine options for stage two, which will necessarily rely on voluntary compliance and an effective communication campaign. Officials should then regularly report to a political reference group from Council’s Governing Body.
To date, we have not seen sufficient information on what the consequences of an extended drought might be.

1. I would like a clear and strong outline of what stage two and three will require, including potential consequences, so that I can communicate this to central government.

I also do not believe Aucklanders understand the seriousness of the issues being faced in the coming months. The Government’s outline of the different levels of the response to Covid-19 was an example of what good communication looks like and we should learn from that.

2. I would like to see a clear communications plan, that involves Auckland Council, on how Watercare intends to communicate with the public in the lead up to stage two and three should that happen.

As has been made clear, the supply side of the equation is at least as important as the demand.

3. I would like an outline of what other emergency measures might be taken to increase supply above the additional 50 million litres planned should the dams fall below the critical level.

We are not getting the full amount of water from the Waikato we can treat right now. If we wait for a decision from Hamilton at the end of the month, that is 450 million litres of water that could have been conserved from our dams that we haven’t been able to realise.

4. I would like an urgent examination of emergency measures under the RMA to start taking the water now.

Medium-Term Actions

The second urgent matter is the medium-term options to increase Auckland’s water supply resilience.

The obvious one is the proposed 200 million litre a day increase from the Waikato. It has taken seven years to reach 89th in line for the consent lodged in 2013 and at that rate we may be waiting many more years. We also cannot presume that the consent will be granted.

5. I would like an outline of Watercare’s engagement to date with the Waikato Regional Council and Tainui.

6. In addition, I would also like an analysis of any environmental impacts of drawing the extra water from the Waikato River.

My understanding is that once consent is granted, if the Regional Council make that decision, it would cost $300-350 million to extend the plant and pipeline and take two and a half years to do the work.

7. I would like an analysis of whether this timeframe can be compressed; if so how? Can it be done in stages to deliver some of the increased level of supply earlier?
Auckland does need to look at means other than the Waikato River if we are to have a truly resilient water supply.

8. I would like information relating to the cost and timeframe for water supply from recycled wastewater and desalination. This should also include the environmental impacts of both options.

9. I would also like an analysis of the option of greater use of tanks to store rainwater off roofs. Working with Healthy Waters, I would like to know the mechanisms to remove disincentives and create incentives for the storage and reuse of rainwater by individual property owners for garden water, washing cars or houses, and use in toilet cisterns. This should also include an outline of the cost and environmental benefits of this option for households.

The current risk of Auckland facing severe water constrictions makes these matters our most urgent priority.

Yours sincerely,

[Signature]

Phil Goff
MAYOR OF AUCKLAND

Copy to: Raveen Jaduram CEO, Watercare Services Limited
Stephen Town CEO, Auckland Council
Patricia Reade Incoming Acting CEO, Auckland Council
24 June 2020

Mayor Phil Goff
Auckland Council
Private Bag 92500
Victoria Street West
AUCKLAND 1142

Tena koe Mayor Goff

**Watercare’s drought response**

Further to your letter of 4 June 2020 regarding Watercare’s response to the current drought.

This response addresses the immediate and medium-term actions and responds to questions 1-7 as set out in your letter.

The Governing Body workshop (1 July 2020) will address the options for a resilient water network for Auckland and respond to questions 8 and 9.

**Background to the drought and Watercare’s water supply network**

Auckland is in the most severe drought on record. Since 1 November 2019 to 19 June 2020, Auckland has received around 60% of the normal rainfall and the January to May period was the driest since records began.

The Auckland water storage lakes are currently 45% full (normal average 77%). Current forecasts are for average rainfall over winter and a drier spring.

Watercare builds and operates its water supply system with 99.5% reliability – a 1:200-year drought security standard. This means that it will take a 1 in 200-year drought to completely empty all the storage in our supply lakes if we do not implement restrictions or other demand initiatives.

**Appendix A** illustrates the current drought response forecast, targeting a minimum 75% storage by October 2020.

Turning to the questions raised in your letter.

**Question 1:** I would like a clear and strong outline of what stage two and three will require, including potential consequences, so that I can communicate this to central government.

**Question 2:** I also do not believe Aucklanders understand the seriousness of the issues being faced in the coming months. The Government’s outline of the different levels of the response to Covid-19 was an example of what good communication looks like and we should learn from that. I would like to see a clear communications plan, that involves Auckland Council, on how Watercare intends to communicate with the public in the lead up to stage two and three should that happen.
Our 2020 Auckland Metropolitan Drought Management Plan originally had three stages. This has now been modified to include a fourth stage, to provide more clarity to commercial and industrial customers. Each stage involves increasingly stringent interventions based on lake water storage levels. The four stages have been shared with senior Auckland Council staff.

The drought response plan is aimed at avoiding the worst-case scenario involving the use of standpipes in the street. The Plan includes:

- demand side initiatives to reduce consumption and restrict demand – water use restrictions
- supply side initiatives to preserve water levels in the storage lakes – source augmentation.

At this stage, we anticipate that water use restrictions will remain in place until Autumn 2021. This scenario may change with prolonged rainfall or a storm event.

Appendix B is a detailed summary of our tactical response to the drought. The table sets out:

1. Our objectives and targets
2. Our demand reduction initiatives
3. Our communications strategy
4. Source augmentation actions
5. Potential impacts on our communities and stakeholders. This includes economic and social impacts and has been shared with Auckland Council’s economists for further analysis.

Our communications strategy

A comprehensive drought communications strategy has been developed with SenateSHJ and the campaign developed with Stanley Street.

The objectives of our external communications with Aucklanders are:

- To raise stakeholder awareness and understanding of Auckland’s current water situation and promote water savings.
- To raise awareness of the potential outcomes and seriousness of the ongoing drought. We continuously review our messaging and have increased the intensity of the messaging as the drought has continued.

We continue to keep the media informed of all developments, including changes to the long-range forecasts. The most recent media release was on 23 June 2020, where we advised that the situation is now “critical”.

Appendix C sets out key messaging by campaign phase.

Appendix D illustrates some of the demand management work being done with our commercial customers, based by sector.
We monitor the effectiveness of the communications at the end of each campaign phase by randomly surveying 750 Aucklanders. The last survey in May 2020 found:

- 75% of respondents know Auckland is in a drought
- 68% of respondents believe it is extremely important to save water right now.

Demand is currently around 8% lower than normal demand for this time of year.

*Question 3:* As has been made clear, the supply side of the equation is at least as important as the demand. I would like an outline of what other emergency measures might be taken to increase supply above the additional 50 million litres planned should the dams fall below the critical level.

The Board has allocated $180m to augment supplies to address the current drought. The initiatives already underway include:

- Treated water from Pupekehe Hickeys Bore from August 2020 (5MLD)
- Treated water from the Papakura Hays Creek Dam from December 2020 (6MLD, increasing to 18MLD next year)
- Increase output from the Onehunga WTP – in September 2020 (4MLD)

We have identified 130 alternative sources from studies dating back to the early 1990s. We have assessed these sources for water availability, environmental effects and implementation timeframe. 18 sources were short listed for further review – further analysis is being undertaken.

We have also used s330 of the Resource Management Act to reduce compensation flows from Cossey’s, Wairoa and Waitākere Dams; and from 16 June 2020 we are taking an additional 15MLD (increasing to 25MLD in August 2020) from the Waikato River.

We are in discussions with the Hamilton City Council regarding the possible use of 25MLD, which they currently do not require. Any such agreement, if reached, would mean Watercare would no longer need to rely on the application made under the emergency provisions of the Resource Management Act.

We are also undertaking actions to reduce non-revenue water, which also augments water supply. These actions are summarised in Appendix E.

*Question 4:* I would like an urgent examination of emergency measures under the RMA to start taking the water now (from the Waikato River)

As noted above, s330 emergency powers have been used since 16 June 2020 to take an additional 15MLD from the Waikato River. This will increase to 25MLD in August 2020, once the Pupekehe East Reservoir is complete.

Resource consents in respect of the emergency powers are being lodged with WRC.
Question 5: Medium-Term Actions - The second urgent matter is the medium-term options to increase Auckland’s water supply resilience. The obvious one is the proposed 200 million litre a day increase from the Waikato. It has taken seven years to reach 89% in line for the consent lodged in 2013 and at that rate we may be waiting many more years. We also cannot presume that the consent will be granted. I would like an outline of Watercare’s engagement to date with the Waikato Regional Council and Tainui.

Watercare is respectful of the Resource Management Act and Treaty Settlements Process and have a constructive longstanding relationship with Waikato-Tainui and a good working relationship with Waikato Regional Council. We also work closely with Te Taniwha of Waikato (a cluster of marae on the Waikato River), for example in the consenting of the Pukekohe Wastewater Treatment Plant.

Our relationship with Waikato-Tainui arose out of the drought of 1993/1994, when Watercare first sought water from the Waikato River. In August 2016, Watercare and Waikato-Tainui entered into an Agreement in Principle. The purpose of the agreement was to cement both parties’ commitment to an enduring intergenerational relationship which will, in time, form cultural and commercial collaboration that will benefit their members and beneficiaries.

Watercare, acknowledges the special relationship that Waikato-Tainui has with the Waikato River as outlined in the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act and the WAI 30 “Statement of Claim” to the Waitangi Tribunal.

Management from both entities have been meeting regularly since the 2016 agreement. More recently, the organisations are also meeting at a Governance level whilst we manage the current critical situation.

We work closely with Waikato-Tainui to identify initiatives that would mutually benefit both entities.

Question 6. In addition, I would also like an analysis of any environmental impacts of drawing the extra water from the Waikato River.

There is an AEE for the 2013 application to take 200MLD that includes a comprehensive analysis of the environmental effects on the river.

If Watercare was taking 350MLD (the existing and proposed new take), this would amount to around 2.2% of the water that flows past the intake point at Tuakau, with 16 billion litres continuing to flow out to sea each day.

Appendix F is an infographic that explains how water is drawn from the Waikato River.

Question 7: My understanding is that once consent is granted, if the Regional Council make that decision, it would cost $300-350 million to extend the plant and pipeline and take two and a half years to do the work. I would like an analysis of whether this timeframe can be compressed; if so how? Can it be done in stages to deliver some of the increased level of supply earlier?
The existing Waikato pipeline, with a new boost pump station, we will be able to pump 225MLD. In addition to the current Waikato WTP doing 175MLD, we will need to build additional treatment facilities to treat another 50MLD. We will also need resource consents to take this water.

The ways this could be achieved could be through WRC granting the 200MLD already applied for, or else granting the Seasonal water take consent application for 100MLD. The latter application is currently being processed by WRC following consultation by Watercare with Waikato-Tainui and Te Taniwha o Waikato (a cluster of marae). As this is a Seasonal take, it sits outside the queue, unlike the 200MLD application made in December 2013.

Questions 8 and 9 regarding recycled wastewater, desalination and rainwater will be addressed at our workshop on 1 July 2020.

Yours sincerely

[Signature]

Margaret Devlin
Chair
Watercare Services Limited
### Appendix A

**Drought Response Forecast – Target minimum 75% storage by October 2020**

<table>
<thead>
<tr>
<th></th>
<th>Jun-20</th>
<th>Jul-20</th>
<th>Aug-20</th>
<th>Sep-20</th>
<th>Oct-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Lake storage levels (target % at end of month)</td>
<td>49.6%*</td>
<td>56.0%*</td>
<td>62.4%*</td>
<td>68.6%*</td>
</tr>
<tr>
<td>B</td>
<td>Average daily use (target MLD)</td>
<td>410</td>
<td>409</td>
<td>405</td>
<td>405</td>
</tr>
<tr>
<td>C</td>
<td>Waikato &amp; Onehunga production forecast (MLD) which includes maximising Waikato WTP above the current consent from July 2020 (extra 10MLD) and August (extra 20MLD), and the addition of Pukekohe Stage 1 August (extra 2.5MLD)</td>
<td>170</td>
<td>180</td>
<td>192.5</td>
<td>192.5</td>
</tr>
<tr>
<td>D</td>
<td>Abstraction from the storage lakes (MLD)</td>
<td>240</td>
<td>229</td>
<td>213</td>
<td>213</td>
</tr>
<tr>
<td>E</td>
<td>Total lake recharge required (MLD) for the month</td>
<td>435</td>
<td>424</td>
<td>408</td>
<td>408</td>
</tr>
<tr>
<td>F</td>
<td>Normal monthly rainfall (mm)</td>
<td>179</td>
<td>207</td>
<td>183</td>
<td>152</td>
</tr>
<tr>
<td>G</td>
<td>Estimated rainfall required to achieve 75% lake storage by Oct.</td>
<td>98%</td>
<td>83%</td>
<td>90%</td>
<td>108%</td>
</tr>
<tr>
<td>H</td>
<td>Forecast rain conditions (% of normal)</td>
<td>100%</td>
<td>103%</td>
<td>85%</td>
<td>79%</td>
</tr>
<tr>
<td>I</td>
<td>Forecasted rain conditions</td>
<td>Normal rainfall</td>
<td>Normal rainfall</td>
<td>Below normal rainfall</td>
<td>Below normal rainfall</td>
</tr>
</tbody>
</table>

*restriction zone
Appendix B: Auckland metropolitan drought response – summary of tactical overview

20 June 2020

Watacare has a secure water supply system and can continue to supply water at all stages of the drought response. Domestic customers = 68.5% of total water consumption; Commercial customers = 31.5% of total water consumption. Auckland Council = 8% of total water consumption.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Sub-category</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake Storage (Trigger Level (Indicative))</td>
<td>Winter</td>
<td>60% storage</td>
<td>60% storage</td>
<td>60% storage</td>
<td>&lt;3% storage</td>
</tr>
<tr>
<td></td>
<td>Summer</td>
<td>50% storage</td>
<td>50% storage</td>
<td>50% storage</td>
<td>&lt;3% storage</td>
</tr>
<tr>
<td>Water savings target</td>
<td>From baseline</td>
<td>5%</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Gross per capita consumption (Lpc):</td>
<td>225 Lpd</td>
<td>240 Lpd</td>
<td>200 Lpd</td>
<td>175 Lpd</td>
</tr>
<tr>
<td></td>
<td>(Litres per person per day)</td>
<td>Residential (voluntary)</td>
<td>Residential (mandatory)</td>
<td>Residential (mandatory)</td>
<td>Residential (mandatory)</td>
</tr>
<tr>
<td></td>
<td>Average annual demand target</td>
<td>433</td>
<td>411</td>
<td>390</td>
<td>300</td>
</tr>
<tr>
<td>Water supply target</td>
<td>7-day seasonal rolling demand</td>
<td>Winter</td>
<td>Spring/Autumn</td>
<td>Summer</td>
<td>Winter</td>
</tr>
<tr>
<td>Outdoor water use restrictions</td>
<td>Residential water users cannot:</td>
<td>Use an outdoor hose or water blaster.</td>
<td>Use an outdoor hose or water blaster.</td>
<td>Use an outdoor hose or water blaster.</td>
<td>Use an outdoor hose or water blaster.</td>
</tr>
<tr>
<td></td>
<td>Commercial water users cannot:</td>
<td>Use an outdoor hose or water blaster.</td>
<td>Use an outdoor hose or water blaster.</td>
<td>Use an outdoor hose or water blaster.</td>
<td>Use an outdoor hose or water blaster.</td>
</tr>
<tr>
<td></td>
<td>- Use an outdoor hose or water blaster unless it is for a health, safety, emergency or biosecurity reason.</td>
<td>- Operate a car wash unless it uses 100 per cent recycled water.</td>
<td>- Use an outdoor hose or water blaster.</td>
<td>Use an outdoor hose or water blaster.</td>
<td>Use an outdoor hose or water blaster.</td>
</tr>
<tr>
<td></td>
<td>- Water sports fields, plants or paddocks unless they have an irrigation system that is fitted with soil moisture or rain sensors.</td>
<td>- Water sports fields.</td>
<td>- Water plants or paddocks unless you have an irrigation system fitted with soil moisture or rain sensors.</td>
<td>- Water sports fields.</td>
<td>- Water plants or paddocks.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Metropolitan Tanker Filling Stations</th>
<th>Commercial</th>
<th>Available</th>
<th>Available</th>
<th>Unavailable</th>
<th>Unavailable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor water use restrictions</td>
<td>- Maintain priority water supply for firefighting and other life-saving facilities e.g. hospitals, aged care and disability settings. - Are to reduce the impact on key commercial customers and business sectors such as food production as water use restrictions become more severe. - Watercare working closely with Filling One and with the top 100 commercial customers including Auckland Council.</td>
<td>Commercial</td>
<td>Access to and use of fire hydrants is suspended during water use restrictions unless for drinking and sanitary water supply to a construction site. Alternative non-potable supplies are available for construction.</td>
<td>Residential</td>
<td>Voluntary savings - Please reduce your indoor water use by at least 20 Lpc per person per day (2 buckets)</td>
</tr>
<tr>
<td>Compliance and Enforcement approach</td>
<td>Commercial</td>
<td>Voluntary savings - Please reduce your indoor water use by at least 10%.</td>
<td>Increased savings - You must reduce your indoor water use by at least 10%</td>
<td>Increased savings - You must reduce your indoor water use by at least 10%</td>
<td>Increased savings - You must reduce your indoor water use by at least 10%</td>
</tr>
<tr>
<td></td>
<td>Residential and commercial</td>
<td>Focus on education and working constructively with water users as they get used to the introduction of water use restrictions including access to alternative non-potable (non-drinking) supplies.</td>
<td>Increased monitoring of known problem areas and sectors with focus on education and compliance, actively follow up of multiple misuse reports.</td>
<td>Full compliance monitoring and enforcement for repeat offenders where appropriate.</td>
<td>Full compliance monitoring and enforcement for repeat offenders where appropriate.</td>
</tr>
<tr>
<td>Category of response</td>
<td>Sub-category</td>
<td>Stage 1</td>
<td>Stage 2</td>
<td>Stage 3</td>
<td>Stage 4</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
</tbody>
</table>
| Communications strategy | - Comprehensive drought strategy developed with Sontostahl and campaign developed with Storyline
- Water is precious campaign started 30th June, when Auckland's water supply was stable
- Messaging and campaign tactics are regularly reviewed and revised to remain fresh and top-of-mind. | Call to action: Raise awareness.
- Please reduce your indoor water use by 20 litres a day (at least 10% for businesses).
- Mandatory water restrictions are in place.
- You cannot use your hose or water blaster.
(Refer water use restrictions for further details.) | Call to action: Engagement and positive action.
- You must reduce your indoor water use by 20 litres a day (at least 15% for businesses).
- Mandatory water restrictions are in place.
- You cannot use your hose or water blaster.
(Refer water use restrictions for further details.) |
| | | | | | |
| Network improvement initiatives | - Reducing water loss in the network
- Water pressure reductions in targeted residential supply zones
- Increased proactive leak detection and leak response
- Increased focus on targeted network renewal
- Activity in these areas increase with stages of the drought response | |
| | | | | | |
| Economic impact | The following information is only intended as a general assessment
Auckland Council Economist David Morrison will examine the potential impacts further.
- The impacts of outdoor water use restrictions and indoor water savings vary depending on the stage of drought response.
- Residential water use restrictions are generally more of an inconvenience with some potential for greater impacts in later stages of the response.
- Some commercial impacts flow on to the jobs and the economy, particularly at the latter stages of drought response.
- Waterwise is working closely with commercial customers, particularly the top 100 water users.
- If everyone saves the required amounts of water at the various stages of the drought response, we will have enough water to sustain life, protect public health and maintain the commercial sector. | Limited in the winter as outdoor water use is minimal. During summer there may be more impacts on larger gardens and lawns. | Limited in the winter as outdoor water use is minimal.
- Summer water use restrictions may result in the loss of plants and vegetation. Landscaping, lawns and gardens may also be impacted particularly in newly planted. Closure of metropolitan filling stations is likely to decrease access to and increase the price of bulked water. | Limited in the winter as outdoor water use is minimal. Summer water use restrictions may result in the loss of plants and vegetation. Landscaping, lawns and gardens may also be impacted particularly in newly planted. Closure of metropolitan filling stations is likely to decrease access to and increase the price of bulked water. |
| | | | | | |
| Social impact | The following information is only intended as a general assessment.
- Auckland water use restrictions are an inconvenience for many and are likely to have more of an impact on social wellbeing over the summer.
- More stringent water use restrictions may start to impact the use and availability of pots and sports fields. | Redactions in indoor water use are an inconvenience but should not have a significant impact on social wellbeing, particularly in the winter. Sometime water use restrictions may limit outdoor activities, particularly related to gardens, household maintenance and recreation. There is also likely to be more impacts on playing fields and sports fields that are unable to use non-potable sources. Such restrictions may impact some sports and recreational activities. | Aucklanders will continue to be able to access water from taps and go about their daily lives albeit with some inconvenience especially in summer to so long as the required savings are achieved. Gardening and outdoor activities are likely to be heavily impacted which may effect householders relying on vegetable gardens for food. Employment should be sustained with careful business and contingency planning although at a reduced capacity of production. Closure of metropolitan filling stations is likely to reduce transport costs to access metropolitan water supplies and affect tanker operators. | Aucklanders will continue to be able to access water from taps and go about their daily lives albeit with significant inconvenience requiring substantial behavioral change, especially in summer. However, with households being the main consumer of water, the impact of reduced water use may not be significant. Employment should be sustained through a reduced capacity of production. Closure of metropolitan filling stations is likely to significantly impact tanker costs making it necessary for the Waiuku supply to be of high demand in case of pressure. |
| | | | | | |
| Water Storage Augmentation | - Securing additional water sources reduces the amount of water that must be stored while also helping to reduce pressure on water storage and allow for growth. | 1. Retaining Hickey's bore to service by August 2020 (SMED)
2. Retaining Hays Creek storage to service by December 2020 (SMED)
3. Waikato Gravity augmentation
- Waikato Water Treatment Plant Stage upgrade to 175MLD and Puketake East Reservoir - August 2020
- Temporary transfer of alternative water take to be assessed (S5ML)
4. MMA 1,500 m3 emergency water tank, 15 May 2020 (1.3ML)
5. Scope alternative sources for augmentation
6. Reduce environmental compensation flows from Coxs, Waiwhā and Watikane Dam (Breastal - approx 5MLD) | |
| | | | | | |
| Water Storage Augmentation | - Securing additional water sources reduces the amount of water that must be stored while also helping to reduce pressure on water storage and allow for growth. | |
| | | | | | |
| Attachment A | Item 9 | | | | |
## Appendix C: Key messaging of the Communications Campaign

<table>
<thead>
<tr>
<th>Campaign phase</th>
<th>Communication objectives</th>
<th>Messaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: <strong>Raise awareness</strong></td>
<td>• Customers see water is a precious resource</td>
<td>Water is precious, please use it wisely</td>
</tr>
<tr>
<td><em>(Voluntary water savings)</em></td>
<td>• Build awareness of drought risk and implications</td>
<td>The drought is growing serious</td>
</tr>
<tr>
<td></td>
<td>• Encourage savings</td>
<td>Keep washing hands, but limit non-essential use like cleaning cars and water blasted buildings</td>
</tr>
<tr>
<td>2: <strong>Engagement and positive action</strong></td>
<td>• Build awareness of drought</td>
<td><strong>As above, plus:</strong></td>
</tr>
<tr>
<td><em>(Stage 1 and Stage 2 water use restrictions)</em></td>
<td>• Ensure understanding of restrictions</td>
<td>Restrictions are now in place and are necessary to protect supply</td>
</tr>
<tr>
<td></td>
<td>• Continue to encourage indoor savings</td>
<td>No external water use (as per restrictions)</td>
</tr>
<tr>
<td></td>
<td>• Build understanding of Watercare response</td>
<td>Aucklanders are making real savings <em>(or Aucklanders need to save more)</em></td>
</tr>
<tr>
<td></td>
<td>• Celebrate gains</td>
<td>Watercare is working to bring on new water sources</td>
</tr>
<tr>
<td>3: <strong>Act now</strong></td>
<td>• Establish recognition the situation is critical</td>
<td>Auckland is experiencing the worst drought on record</td>
</tr>
<tr>
<td><em>(Stage 3 and Stage 4 water use restrictions)</em></td>
<td>• Recognition of long-term consequences and heightened need for savings</td>
<td>You must act now to make water savings.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Restrictions are in place and must be strictly adhered to.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Watercare is working to bring on new water sources</td>
</tr>
</tbody>
</table>
**Appendix D: Examples of demand management work being done with our commercial customers, based by sector.**

<table>
<thead>
<tr>
<th>Customer Type</th>
<th>Action</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 100 customers by volume</td>
<td>• Weekly communication with top 100 and calls to top 10 customers</td>
<td>• Consumption feedback provided regularly with updates on initiatives in place to deliver savings</td>
</tr>
<tr>
<td></td>
<td>• Promoting case studies for modeled behavior</td>
<td>• Smart meter data monitored for real time trends</td>
</tr>
<tr>
<td></td>
<td>• Targeted key industry segments with personalized communication</td>
<td></td>
</tr>
<tr>
<td>Directly affected customers</td>
<td>• Water blasters, car washers, outdoor cleaning and irrigators contacted and communicated locations of non-potable sources</td>
<td>• Monitoring through water misuse process</td>
</tr>
<tr>
<td></td>
<td>• Assisted with expediting bore consenting process</td>
<td>• Car washes at petrol stations closed unless they are using 100% recycled water</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Customers actively applying for bore drilling to access non-potable water</td>
</tr>
<tr>
<td>Kāinga Ora</td>
<td>• Designed plan to increase awareness and education of drought within their residential base with Kāinga Ora</td>
<td>• High consumption households identified to target suburbs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Water savings feature in their quarterly newsletter and geo tagging our Facebook posts to their high consumption suburbs</td>
</tr>
<tr>
<td>Food and Beverage</td>
<td>• Weekly communication with these segments using smart meter data for regular check ins</td>
<td>• All building and vehicle washing kept to a minimum</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Reduced production where possible</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Trigger nozzles installed in plant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Making innovative technical changes to drive savings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Revised cleaning processes with reduced water flushes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Grey water use is being investigated</td>
</tr>
</tbody>
</table>
Appendix E: Actions we are taking to reduce Non-revenue water, which also augments water supply.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Action</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>District metering</td>
<td>• Reduce size of current supply zones to allow comparative monitoring</td>
<td>• District metering enables the benefits of all non-revenue water initiatives to be monitored and tracked</td>
</tr>
<tr>
<td></td>
<td>• Monitor consumption over time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Target priority areas for leak repair</td>
<td></td>
</tr>
<tr>
<td>Pressure reduction</td>
<td>• Reduce leakage and consumption</td>
<td>2.35 MLD by Nov 21</td>
</tr>
<tr>
<td></td>
<td>• Reduce number of burst pipes</td>
<td>4 zones completed by July 2020 with a further 4 zones completed by Oct 2021</td>
</tr>
<tr>
<td>Leakage control</td>
<td>• Increased leak detection and response</td>
<td>9.6 MLD by June 2021</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• All leaks detected can be fixed within 5 days of reporting</td>
</tr>
<tr>
<td>Meter replacements</td>
<td>• Improved accuracy of meter readings</td>
<td>Replace 30,000 domestic meters and 1000 commercial meters each year</td>
</tr>
<tr>
<td>Theft reduction</td>
<td>• Meter fire connections in specified properties to monitor for illegal use</td>
<td>Yet to be determined – based on trial findings</td>
</tr>
<tr>
<td></td>
<td>• Undertake trial to determine benefits</td>
<td></td>
</tr>
</tbody>
</table>
Appendix F

Drawing water from the Waikato River catchment

The Waikato River is the longest river in New Zealand. It flows for 425km from the central North Island volcanic zone, into Lake Taupo, then north past numerous communities before flowing into the Tasman Sea at Port Waikato.

**Fast facts**
- **Length:** 425km
- **Catchment area:** 14,260km²
- **Direction:** Water flows north from Mt Ruapehu to Port Waikato.

**Watercare’s Waikato Water Treatment Plant** is in Tūkau. This is 36km from Port Waikato and 25km from the salt-water zone. At this point in the river, at least 15 billion litres of water flows past the treatment plant every day before reaching the Tasman Sea. There are only 33 water users downstream of our treatment plant.

**Waikato River consent**
Watercare has applied to take a further 200 million litres of water a day from the river, bringing the total daily volume to 339 million litres. If approved, this would represent 2.2% of the total volume of water flowing out to sea from this point in the river.

**Proportion of water to be used by Auckland should Watercare’s consent be approved:**
- ≤2.2%

**Serving communities in the Waikato Region**
There are numerous communities upstream of Watercare’s treatment plant that draw water from the Waikato River catchment. These communities — which include Cambridge and Hamilton — have a combined population of around 377,000. Collectively, these communities use up to 223 million litres of water a day.

**Generating electricity**
Mercury operates eight hydro-electric power stations along the river between Taupo and Kerikeri. Its control gates at Taupo regulate the flow of water into the river. Genesis Energy operates three hydro-electric power stations upstream of Lake Taupo as well as New Zealand’s largest thermal power station at Huntly. The Huntly power station uses water from the river for cooling purposes. Collectively, activities to generate power consume up to 69.4 million litres a day.

**Lake Taupo**
Lake Taupo is New Zealand’s largest lake, holding 59 trillion litres of water. This is 617 times more than the total volume of water stored in Auckland’s dams.

**Serving farmers**
There are around 270 entities that draw water from the river for horticultural or agricultural purposes. Collectively, these entities use up to 333.7 million litres of water a day on average.

**Other water users**
There is a wide range of other entities upstream that draw water from the Waikato River catchment. For example, water is being used for construction, mining and manufacturing operations as well as for recreational purposes. Collectively, these entities consume up to 84.1 million litres of water a day.