



Submission to Taumata Arowai on Draft Drinking Water Rules, Acceptable Solutions and Environmental Performance Measures

Executive Summary

Thank you for the opportunity to submit on the proposed draft Drinking Water Quality Assurance Rules (“Rules”), Drinking Water Acceptable Solutions, Drinking Water Standards, Aesthetic Values and Environmental Performance Measures. This submission is being made on behalf of the following Hawke’s Bay territorial authorities:

- Central Hawke’s Bay District Council
- Hastings District Council
- Napier City Council
- Wairoa District Council

We all need safe, affordable and reliable drinking water to better support New Zealand’s health, safety and environment.

We acknowledge the Government’s Three Waters Reform Programme, in particular the need for a dedicated regulator and new standards that provide confidence in the delivery of improved public health and environmental health outcomes.

We support the establishment of Taumata Arowai and its role and identity as a summit or gathering of people coming together around an important area of focus and government’s national ambitions for the water services sector improving, **over time**, with their support, influence, accountability, leadership and protection.

It is with reference to Taumata Arowai’s identity and its ambitions being met **over time**, that we form the basis of this submission and how we see the challenges being resolved.

There is no disputing the fact that there are variable levels of compliance across the drinking water sector, and that there will be significant challenges for both councils, registered and unregistered private water suppliers to meet the proposed requirements for the provision of validated, verified and evidenced safe water when the Rules and Acceptable Solutions come into effect.

To address these nationwide challenges we recommend that Taumata Arowai uses a tiered transitional approach to setting the requirements:

A. Adopt an ambitious approach for Large supplies and Council supplies.

B. Adopt a pragmatic approach for private water supplies.

Ambitious Approach

Set the Drinking Water Quality Assurance Rules (Rules) and Acceptable Solutions at the ultimate level desired, acknowledging that there will be many supplies reporting as non-compliant for a number of years. The focus then needs to be on closing the gaps with agreed improvement programmes. These programmes should consider risk based assessments and consideration be given to deliverability.

The advantage of the **Ambitious Approach** is that a clear signal is sent to the sector and wider community about the level of change and improvement required to consistently and reliably supply safe drinking water.

Some large council supplies will also struggle to fully comply in the short term, including in the Hawke's Bay. Even if councils have unlimited funding and resources, the current supply chain issues and the time required to plan, consult, design, consent, procure and deliver infrastructure upgrades, will mean that it will be difficult to achieve full compliance based on the current timeframes set for the Rules and Acceptable Solutions.

Critical to the **Ambitious Approach** is clarity of the requirements, and transition agreements that are actively managed to ensure delivery of agreed improvements in a timely manner.

Pragmatic Approach:

Revise and set the Rules and Acceptable Solutions for private water supplies at a pragmatic, attainable and cost effective level and then gradually increase the requirements over time to focus on growing competence into the raised requirements (a step wise approach growing awareness, knowledge and understanding between all parties).

Taking a **Pragmatic Approach** is particularly relevant for registered private water suppliers who are currently expected to comply within a twelve month time frame.

For private water suppliers serving <25 people we propose that the Rules and Acceptable Solutions are removed and instead focus on an engagement and education programme supported with guidelines for the monitoring and end-point treatment solutions to mitigate risks associated with supplies.

The advantage of the **Pragmatic Approach** for private suppliers (most of whom have small or very small water supplies) is that Taumata Arowai can start an engagement programme with private suppliers to increase their understanding of responsibilities of being a water supplier, and increase their competency as water suppliers. Taking this approach will provide Taumata Arowai with an opportunity to build its own understanding of the scale of the current situation for private supplies, the challenges, and importantly the critical risks to better inform a pragmatic improvement programme.

We acknowledge that whilst Government has provided an extended timeframe for unregistered supplies to comply with the Rules or Acceptable Solutions, it is evident that the forthcoming changes could simply



be ‘kicked down the road’ or result in ‘unintended consequences’ rather than delivering on the outcomes sought by Government.

In a letter to Federated Farmers dated 3 September 2021, Hon. Nania Mahuta, Minister of Local Government states:

...“the aim of the Bill is to ensure that all communities, including small and rural communities, receive safe drinking water. I want to reassure you that I am committed to ensuring the legislation is workable for small supplies. It needs to be cost effective and easy to comply with. This is something I have directed my officials and the new Crown entity, Taumata Arowai, to deliver on from the outset....

Acceptable solutions provide a “safe harbour” for suppliers. In a similar way to acceptable solutions under the Building Act, they are issued by Taumata Arowai to allow suppliers to easily meet their duties by using approved technical experts such as plumbers and electricians”.....

It is the Councils’ view that the proposed Rules and Acceptable Solutions do not reflect this intent. As drafted, they are not workable, nor easy to comply with, and will be cost prohibitive for many private water supplies.

We recommend that Taumata Arowai consider the following to maximise the advantages of both transitional approaches:

- **Adopt the Ambitious Approach for large supplies, and the Council-run small and very small supplies.** In doing so it is important to recognise that for some Council supplies a transition period will be required to consider practical realities of meeting the new Rules within the timeframes. (eg: planning and build processes, supply chain issues). Councils’ updated drinking water safety planning should include improvement actions to resolve all gaps by agreed dates with Taumata Arowai. Strong oversight of agreed delivery would be required. These plans are risk based, with the focus on addressing the areas of highest risk and include interim mitigations as required.
- **Adopt the Pragmatic Approach for private water supplies** to engage, educate, build relationships, trust, and gradually increase the understanding and level of competency in the sector while minimising unintended consequences. The Rules and Acceptable Solutions need to be significantly simplified and made less onerous to encourage and enable compliance. We propose that private water suppliers serving <25 people are excluded from the Rules and Acceptable Solutions and instead Taumata Arowai focuses on an engagement and education programme supported with guidelines for the monitoring and end-point treatment solutions to mitigate risks associated with supplies. We also suggest that the population thresholds for categories are reviewed to enable more pragmatic requirements aligned to different risk profiles.
- **Undertake further engagement and consultation on revised Rules and Acceptable Solutions.** 98% of private water suppliers surveyed in Hawke’s Bay were not aware of the draft Rules and Acceptable Solutions or the consultation. We recommend that Taumata Arowai delays the implementation of the draft Rules and Acceptable Solutions and undertake further consultation to address the concerns we raise in **Appendix 1** of our submission.



- **Consider the requirement to assess drinking water services.** We note that amendments to the Local Government Act section 125 require councils to undertake community assessments of water supplies every three years. Our project research initiative has highlighted a need for clarification from Taumata Arowai (or DIA) on what is expected in terms of the reference to a 'community'. The Hawke's Bay private water supplies project has demonstrated that this assessment requirement will be very difficult to complete (if the definition of 'community' is very broad) prior to supplies being registered (4 years after enactment of the Water Service Act). Councils propose a staged approach focusing on risk is a more pragmatic approach.

Part 1 of our submission in the following pages details our views under the **Ambitious Approach** for Council-run supplies.

Part 2 of our submission sets out our recommendations and comments on how Taumata Arowai could amend the requirements for private suppliers under the **Pragmatic Approach**.

Appendix 1 to our submission provides an overview of the Hawke's Bay Private Water Supply Project, including key insights and recommendations are shared for drinking water supplies not connected to a Council water supply.

Appendix 2 provides our response to the specific questions posed by Taumata Arowai in its consultation form.



Part 1 - Council Water Supplies – Ambitious Approach

The four Councils are responsible for a range of different types of water supplies. These are summarised briefly below to show the variety of water supplies that have informed this submission.

1.1. Central Hawke's Bay District Council

43% of Central Hawke's Bay residents are served by a Council water supply. There are five registered water supplies: three large, one small and one very small supply:

- The Waipukurau and Waipawa/Otane water supplies use shallow groundwater, which is disinfected with UV and chlorinated. They supply a population of 3,700 and 2,400 respectively.
- The Takapau water supply uses groundwater. This is treated with UV disinfection, manganese removal and chlorination. It supplies 570 people.
- Pōrangahau water supply uses shallow groundwater. This is treated with UV disinfection, iron removal and chlorination. It normally supplies 160 people but this increases in the summer due to holiday makers.
- The Kairakau Beach water supply provides chlorinated shallow groundwater and spring water to a population which is normally less than 25 people. The population increases in the summer due to holiday makers.

In addition, there are four unregistered Council water supplies:

- Kairakau water supply uses groundwater as its source and is treated with cartridge filtration and chlorination. The population is normally less than 25 people but this increases in summer due to holiday makers.
- Pourerere water supply sources its water from a spring on privately owned land. The water is not treated and is supplied as a non-potable supply to a campground and three houses. The population is normally less than 25 people but this increases in summer to over 800 due to campers.
- Tikokino Hall and Childcare water supply uses untreated roof water. The population is normally less than 25 people but this can increase during events.
- Ongaonga Hall and Playcentre water supply uses untreated groundwater. The population is normally less than 25 people but this can increase during events.

1.2. Hastings District Council

76% of residents in Hastings District are served by a Council water supply. The Council has ten registered water supplies: six large, three small supply and one very small supply.

- Hastings Urban (Hastings, Flaxmere, Havelock North, Paki Paki, and Bridge Pa) water supply provides chlorinated groundwater to 65,000 people. Work is well underway to complete the



works that provides treatment (UV disinfection at each of the bore fields, with filtration also in place at one location). Works also includes increase in treated water storage.

- The Haumoana / Te Awanga, Clive and Whakatū water supplies provide groundwater which receives UV treatment (Whakatu to be commissioned mid 2022) and chlorination. These water supplies serve 1,900, 560 and 340 people respectively. Not all properties in these communities are connected to the council supply in these areas, many have own private bores.
- The Whirinaki, Waimārama and Ōmāhu water supplies use groundwater which is treated with filtration, UV and chlorination. They supply 800, 260 and 130 people respectively. The Waimarama population increases to over 500 during summer due to holiday homes and campers.
- Te Pohue water supply uses spring water, which is treated with filtration, UV disinfection and chlorination, to supply 60 people
- Waipatiki water supply provides chlorinated groundwater to a resident population that is less than 25 people but this increases significantly in summer as the majority of properties are holiday homes and the campground is connected to the supply. A new water treatment plant is due to be commissioned in late 2022 that includes filtration, UV disinfection and chlorination as well as greensand and granular activated carbon filtration for aesthetic treatment.
- The Waipatu water supply supplies groundwater, which is treated with filtration, UV disinfection and chlorination, to 30 people. Also potential to be connected into main urban supply in future years.

1.3. Napier City Council

Napier City Council has two registered water supplies serving 86% of the population, one large and one very small:

- The Napier water supply serves approximately 65,000 people. Groundwater is chlorinated and then pumped directly into the reticulation. Some wells are high in manganese and are being replaced with wells with lower manganese concentrations, and the high manganese wells will be decommissioned within five years. The new wells will have UV disinfection and chlorination. The shallowest well is 36 m deep. 98% of the district has a reticulated water supply.
- The Meeanee Hall and Sports Centre is also a registered water supply. It supplies untreated groundwater. NCC intend to connect it to the Napier reticulated supply and decommission the bore.

1.4. Wairoa District Council

Wairoa District Council has five registered water supplies, serving 56% of the population: two large, two small and one very small supply.

- The Wairoa water supply draws water from the Wairoa River which has a very large catchment area of 3,700 km². The river water is known to have high concentrations of faecal bacteria and is very turbid, especially after rain. The water is treated with coagulation, UV and chlorination and provides 7-log credits for protozoal removal. It serves 4,700 people.



- The Tuai Village water supply serves 300 people. It uses surface water which is treated with filtration and UV.
- The Blue Bay water supply upgrade has been placed on hold and is currently disconnected to properties. Dwellings have own supply such as rainwater tanks. Potentially if this scheme was reactivated it would supply 120 people
- The Mahanga Beach water supply provides groundwater to 150 people. This non potable scheme is managed with chlorination, and a boil water notice is sent with rates notices to each property owner.
- The Nuhaka Domain water supply uses roof water and supplies less than 25 people.

Councils intend to use the Rules for their supplies, except for Central Hawke’s Bay which may use Acceptable Solutions for its community halls. This part of the submission therefore only discusses the Rules.

2. General Comments

The key submission points that the Hawke’s Bay Councils wish to make on the draft Rules for the Ambitious Approach for Large and Council water supplies are:

- **The six principles of drinking water safety** should be added to the Rules and Acceptable Solutions.
- **Transitional provisions** should be added to allow time for registered suppliers to undertake upgrades, implement systems and processes, and undertake training. This could be linked to the timeframes in a water supplier’s drinking water safety plan, with those timeframes to be agreed with Taumata Arowai.
- **A risk-based approach** should be taken through developing and implementing drinking water safety plans, and the Rules should be less prescriptive.
- **Rules need to consider alternatives** and should allow for alternative management solutions identified in the Drinking Water Safety Plan or Source Water Risk Management Plan.
- **Access to laboratories is important** and we recommended that Taumata Arowai registers Level 2 laboratories so that they can continue to undertake drinking water analysis for their communities. Taumata Arowai may also wish to consider providing a pathway to enable these laboratories to work towards Level 1 status. We also are concerned that the additional requirements for testing may not be able to be met by available laboratory and sampling capacity.
- **Calibration and verification requirements** should be in accordance with the instrument manufacturer’s specified procedures and frequency.
- **Water quality monitoring** where the Rules require a certain period of monitoring before monitoring frequency reduces (e.g. disinfection by-products), this should allow for historical monitoring to be used. The Rules should allow for consideration of reduced monitoring frequency where water quality is demonstrated as consistent or well characterised.



2.1. Introductory Sections and General Rules

The six principles of drinking water safety from the Drinking Water Standards for New Zealand (2005, revised 2018) and the Havelock North Drinking Water Inquiry are extremely useful reminders for water suppliers and should be added to the Rules.

Recommendation: the six principles of drinking water safety should be added to the Rules:

- Principle 1: A high standard of care must be embraced.
- Principle 2: Protection of source water is of paramount importance
- Principle 3: Maintain multiple barriers against contamination.
- Principle 4: Change precedes contamination
- Principle 5: Suppliers must own the safety of drinking water
- Principle 6: Apply a preventive risk management approach.

2.2. Transitional Provisions

The Councils are committed to providing safe water for their communities. However, the reality is that it will not be possible for all Council water supplies to comply with the Rules within the timeframes set, due to the time required to upgrade infrastructure (which must be planned, funded, designed, procured, installed and commissioned) and supply chain issues if over 1000 registered supplies are upgrading their systems at the same time.

Recommendation: that transitional provisions are added to the Rules to allow time for registered suppliers to undertake upgrades, implement systems and processes, and undertake training. This could be linked to the timeframes in a water supplier's drinking water safety plan, with those timeframes to be agreed with Taumata Arowai.

2.3. Risk-based Approach

Taumata Arowai has conveyed a strong message through its webinars and engagement with water suppliers that the drinking water industry needs to move from water safety plans to water safety planning. The Councils agree that a risk-based approach through water safety planning and continuous improvement is appropriate. However, the draft Rules seem to be overly prescriptive and leave little room for drinking water safety planning to provide much value. The Councils' view is that the Rules should be less prescriptive and that more weight should be placed on taking a risk-based approach through water safety planning.

To allow for technology advancement and innovation, it is important the level of prescription in the Rules is appropriate and consistent. If too many details are prescribed it may rule out new approaches made possible through innovation and changes in technologies. This principle should be applied across the Rules. eg: Calibration requirements: If advances in technology lengthen calibration periods, then prescribing a shorter calibration period in the Rules introduces more risk than required, as manual calibration introduces opportunity for user error.



We recognise the rules introduce sections that were not covered previously and that Taumata Arowai is likely seeking to ensure important considerations are not missed when a water supplier is doing their water safety planning. We believe that these aspects could be better conveyed via guidance information to water suppliers, which in turn make easier to update as new information and learning becomes available.

Recommendation: that a risk-based approach should be taken through developing and implementing drinking water safety plans, and the Rules should be less prescriptive.

2.4. Alternatives and Exemptions

In line with the principle of applying a preventive risk management approach, the Rules should allow for alternative management solutions identified in the Drinking Water Safety Plan or Source Water Risk Management Plan. This may include exemption application pathways if the risks identified for a supply are significantly different to what the Rules cater for.

Recommendation: that The Rules should allow for alternative management solutions identified in the Drinking Water Safety Plan or Source Water Risk Management Plan.

2.5. Laboratories

The draft Rules and Acceptable Solutions require all testing to be undertaken by a laboratory that is IANZ accredited and listed on Taumata Arowai’s register.

Level 2 laboratories currently undertake drinking water testing and were approved by the Ministry of Health to do so.

We understand that Taumata Arowai does not plan to list Level 2 laboratories on its register however we wish to note that smaller rural based communities (such as Wairoa) rely on the Council laboratory (Level 2) which is the only laboratory in the district that undertakes drinking water testing.

There is no guidance about how a Level 2 laboratory can achieve Level 1 accreditation and there are implications (additional costs and resources) that will have to be accommodated. The alternative of using the closest Level 1 laboratory in Napier (1.5 hours from Wairoa and 2 hours from the more remote parts of Wairoa) would be seen as impractical and prohibitively expensive, particularly considering the much higher frequency of monitoring proposed in the draft Rules and Acceptable Solutions.

Recommendation: that Taumata Arowai registers Level 2 laboratories so that they can continue to undertake drinking water analysis for their communities. Taumata Arowai may also wish to consider providing a pathway to enable these laboratories to work towards Level 1 status.

2.6. Calibration and Verification of Instruments

Calibration and verification of instruments should be in accordance with the instrument manufacturer’s specified procedures and frequency, rather than at a prescribed frequency in the Rules. This should be consistent throughout the Rules.

Recommendation: Calibration and verification requirements should be in accordance with the instrument manufacturer’s specified procedures and frequency.



2.7. Water Quality Monitoring

The Councils have been monitoring their water supplies for many years and this should be explicitly provided for in the Rules. Where monitoring clearly demonstrates consistent water quality, the monitoring frequency should reduce. It is acknowledged that events may require reconsideration of a reduced monitoring regime.

Recommendation: Where the Rules require a certain period of monitoring before monitoring frequency reduces (e.g. disinfection by-products), this should allow for historical monitoring to be used.

The Rules should allow for reduced monitoring frequency where water quality has been demonstrated as being consistent or well characterised.

Where Councils Hold Differing Views

The Councils are in general agreement on most points in this submission. However, there are three areas where they hold different views: source water monitoring, Class 1 bores and the requirement to maintain a free available chlorine equivalent (FACE) residual of 0.2 mg/L everywhere in the network.

2.8. Source Water Monitoring

The Councils hold different views on source water monitoring:

- Wairoa District Council's view is that weekly monitoring of E. coli and total coliforms will just tell them what they already know: that the Wairoa River has high levels of microbial contamination and turbidity. The Wairoa water treatment plant achieves 7-log protozoal removal and can treat water up with turbidity to 3500 NTU. In 40 years of monitoring, E. coli has never been detected in the treated water or in the distribution system
- Napier City Council, Central Hawke's Bay District Council and Hastings District Council share the view that the required source water monitoring is useful in alerting suppliers to changes in raw water quality that may affect the safety of the water or the treatment process.
- Hastings District Council considers, in light of the Havelock North incident in 2016, that event-based source water monitoring is important. Event based monitoring is undertaken to increase the understanding of how each source water responds when challenged by conditions that are deemed outside of 'normal operation' and allows appropriate responses e.g. corrective actions or implementation of contingency plans, to be undertaken. A greater understanding of the variability of the source water under different conditions allows for better management of the water supply. Experience to date shows that no two events are identical and that sources can respond differently to events that may present as similar. Due to the variable nature of events, or factors that contribute to change it is not easy to have a "catch all" response defined. The decision to increase sampling frequency, or parameters requires the knowledge of competent drinking water supply staff to make decisions based on the nature and scale of the event and the information that is being presented. Additional sampling could include an increase in frequency



of routinely monitored parameters or additional specific testing parameters e.g. protozoa or chemical parameters.

Recommendation: Source water monitoring requirements should be able to be amended through the source water risk management plan and drinking water safety plan process.

2.9. Class 1 Bores

The Councils that use groundwater hold different views on the timing and transition for Class 1 bores:

- Hastings District Council's view is that Class 1 should be deleted and all groundwater should be treated for protozoa as a default, with exemption provisions considered similar to the residual disinfection exemption provisions. This allows for evidenced risk management-based decision making, rather than relying on an arbitrary depth (i.e. 30m) which is not reflective of the risk profile of each aquifer. Hastings notes, based on the additional research it has completed since 2016, that depth is a dangerous proxy if trying to demonstrate a safe drinking water source.
- Napier City Council agrees with the use of Class 1 bores. However, some of Napier's bore heads will not be able to be raised above ground due to their location (e.g. in the footpath, see photo below). These bores would therefore be Class 3 (unsecure) and 4-log protozoa treatment would be required unless the source water risk management plan demonstrated that 3-log was acceptable. It will not be possible to replace these bores or install protozoa treatment on them before the rules come into effect on 1 July 2022, so the Napier water supply will be non-compliant with the new rules. Napier City Council plans to replace these bores with bores that meet the Class 1 criteria elsewhere in the city in the next five years and wishes to make the right investment decision for the community.



Figure 1: Below ground bore head in the footpath in Napier

2.10. *Maintaining a Free Available Chlorine Concentration throughout the Network*

The Councils hold different views on the requirement to achieve a free available chlorine equivalent (FACE) concentration of 0.2 mg/L throughout the network:

- Napier City Council advises that this will be challenging for its supply due to the naturally high pH of its groundwater. The pH is typically 8.1 – 8.3, and this increases to around 8.5 in the network. The free available chlorine (FAC) concentration would need to be increased from 0.3 mg/L to 0.59 mg/L to achieve FACE of 0.2 mg/L at a pH of 8.6¹. Alternatively, pH correction could be implemented but this would also require alkalinity dosing to prevent corrosion of metal fittings and hot water cylinders. These additional treatment steps would incur additional cost. Higher chlorine concentrations will be unpopular with customers.
- Hastings District Council's and Central Hawke's Bay District Council's view is that requiring a FACE concentration of 0.2 mg/L throughout the network is reasonable.
- Wairoa District Council is of the view that for its fully compliant potable water supplies (i.e. Wairoa and Tuai), requiring 0.2 mg FACE concentration is reasonable. However, the likes of Mahanga bores which are currently non potable and have pH levels around 8.0 could be of a concern once an upgrade takes place . Added chemical costs would be required to achieve the desired FACE of 0.2mg/L in these situations.

¹ Table 6.1, Drinking Water Guidelines Chapter 6: Bacteriological Compliance (Ministry of Health)



Part 2 – Private Water Supplies – Pragmatic Approach

1. Context

The Councils have undertaken a project to identify private water supplies in the Hawke’s Bay region and to engage with a range of private water suppliers. Our analysis estimates that there are over 6,000 private water supplies in Hawke’s Bay, so it is vital that the implications for these supplies and the tens of thousands of other private water supplies around the country are considered.

2. Key Insights and Recommendations

The following points comprises our feedback on the draft Rules and Acceptable Solutions in relation to private water supplies, following a series of engagements with a cross section of private drinking water suppliers as part of the Hawke’s Bay Private Drinking Water Supplies project. These points should be read in conjunction with **Appendix 1** that provides more detail on the insights and recommendations.

- The draft Rules and Acceptable Solutions set out to improve public health outcomes by addressing risks posed by drinking water supplies. However, it appears that the Acceptable Solutions seek to eliminate risk altogether, rather than reducing risk to an acceptable level.
- Drawing on the insights from the range of engagements held, it has become clear that the draft Rules and Acceptable Solutions appear to be both impractical and too onerous in their prescription for the scale at which they intend to serve.
- 98% of private water suppliers that we surveyed were unaware of the consultation on the draft Rules and Acceptable Solutions.
- Given that tens of thousands of private water suppliers across New Zealand are affected – many of whom are not even aware that they are private water suppliers – there needs to be a comprehensive communications and engagement campaign to make sure that they are adequately informed and their views and perspectives are heard.

A **Pragmatic Approach** needs to be taken to plan for and support the process to transition the private drinking water supply community who will not be familiar with or do not have the means financially or technically to meet the proposed requirements.

The **Pragmatic Approach** (set out in Executive Summary of the submission) will need a communication, engagement and education plan to create awareness and understanding of the changes before improvements can be made.

- Taumata Arowai’s needs to establish relationships with communities impacted and build trust. It should meet rural, marae and community volunteer water supply communities to listen and understand.



- This should followed by an engagement and awareness campaign, raising awareness and understanding of the Water Services Act and developing pragmatic Rules and Acceptable Solutions in conjunction with private water suppliers.
- Direction should be established through a clearly staged and well supported approach, developed within a Treaty partnership framework. It is vital that Te Ao Māori principles are embedded in the guidance for improvement solutions.
- A programme should be developed to assist private water suppliers with the funding options to meet the cost of the new obligations, and to increase their capacity and capability.
- It is important to take private water suppliers on the journey, and in the long run this will result in safer water supplies and higher levels of compliance.

3. Key Technical Issues for Private Water Suppliers

The key submission points that the Hawke’s Bay Councils wish to make to implement the **Pragmatic Approach** for private water supplies are:

- **Who is responsible for the water supply?** Taumata Arowai needs to provide greater clarity about who is the water supplier, and therefore responsible for the water supply, where there are multiple parties involved.
- **Guidance on governance structures:** It would also be helpful to provide guidance about governance structures for unregistered private water suppliers where multiple parties are involved.
- **Chlorination should not be required:** Very Small and Small Water Supplies should not be required to chlorinate their supplies as the risks could well outweigh the benefits.
- **Simplify the Acceptable Solutions and Rules:** A pragmatic approach to risk will provide a more effective pathway to improving public health outcomes in a cost effective and practical manner. We further recommend that that private supplies serving <25 people are excluded from the Rules and Acceptable Solutions and instead focus on an engagement and education programme supported with guidelines for the monitoring and end-point treatment solutions to mitigate risks associated with supplies. We also recommend that the population ranges could be reconsidered to which rules for very small and small supplies are applied as part of a review to enable more pragmatism
- **Guidance and templates for drinking water safety plans:** Taumata Arowai should provide very simple templates and guidance for drinking water safety plans and source water risk management plans that can be used by people who are not experts in drinking water.
- **Reticulated distribution systems need to be defined:** A clear, pragmatic, risk-based definition of a reticulated distribution system is needed e.g. a distribution system is a network of pipes, pumps and storage tanks that supplies water to more than one property and to at least 20 buildings.



- **Does other legislation apply?** Clear guidance about the extent to which the Food Act, Animal Products Act and Wine Act mean that suppliers don't need to comply with the Water Services Act is needed.
- **Monitoring cyanobacteria and cyanotoxins** can be a complicated field and we recommend further consideration is required of this. Part of this review needs to consider the role and expertise that Regional Councils have that could be part of the monitoring and oversight back to water suppliers.

These are described in more detail below.

3.1. Who is the water supplier?

Private water supplies are often informal arrangements between neighbours and the issue of ownership, responsibility and accountability for these supplies is often complex and unclear. The following examples in the Hawke's Bay where it is unclear who is the water supplier include:

- Four neighbours sharing untreated water from a nearby spring which is owned by neither of them.
- A farmer supplying untreated spring water as part of a historical agreement to a group of nearby houses and for the neighbour's stock water. The neighbours have subsequently subdivided for new houses.
- A neighbour letting another neighbour (who has an easement) take water from a bore on the property which they does not use.
- A lifestyle block owner who holds the consent for the water, but the bore is on the neighbour's property that supplies the neighbour' household and the irrigation, stock water and drinking water to two houses on the lifestyle property owner's land.
- An industrial site providing drinking water to nearby commercial properties.

Recommendation: that Taumata Arowai provides greater clarity and definition for water supplies and their responsibilities where there are multiple parties involved and there is no clear water supplier.

It would also be helpful to provide guidance about governance structures for private water suppliers who are not yet registered.

3.2. Chlorination

Requiring Very Small supplies using the Acceptable Solution for Spring and Bore Water Supplies and Small supplies using the Rules to chlorinate will introduce Health & Safety and environmental risks (plus potential public health risks from overdosing or disinfection by-products) which potentially outweigh the public health risk being managed by requiring residual disinfection.



The Rules and Acceptable Solutions are inconsistent in their requirements for chlorination. A Very Small supplier with a groundwater source does not need to chlorinate under the Rules but would need to chlorinate if using the Acceptable Solution for Spring's and Bore Water Supplies. Chlorination is required for self-supplying buildings under the Rules, despite having no network.

Recommendation: that Very Small and Small Water Supplies should not be required to chlorinate their supplies. The Rules and Acceptable Solutions should be consistent for chlorination with respect to population served.

3.3. Acceptable Solutions

The intent of the acceptable solutions is supposed to enable a simple straightforward path to compliance with the Water Services Act and drinking water regulations². However, the Acceptable Solutions as drafted are complex and onerous.

The requirements before an Acceptable Solution can be adopted are currently too narrowly defined to give private water supplies a viable alternative to using the Rules and needing to prepare a drinking water safety plan.

If a water supplier fails to meet any of the criteria in an Acceptable Solution (e.g. has a bore in limestone country or has elevated manganese in their source water) then they cannot use the Acceptable Solution. The requirements should be broadened to be more inclusive and provisions included to address concerns (e.g. treatment for iron and manganese if source water concentrations are high).

Acceptable Solutions also need to consider scenarios where the supply is a blended solution. Eg: roof top rainwater supply that is topped up by an irrigation scheme or spring in a drought.

If a water supplier fails to meet any one of the more than **70** requirements of the Acceptable Solution, they have failed to meet their obligations under the Water Services Act. It appears that the acceptable solutions seek to eliminate risk altogether, rather than reducing risk to an acceptable level. We suggest that this requires reconsideration of how the initial intent of the Acceptable Solutions can be met and risks for different supplies be considered.

Recommendation: that a Pragmatic Approach is taken with private water suppliers including excluding private supplies of <25 from the Rules and Acceptable Solutions. The Acceptable Solutions approach for private water supplies should be reviewed and revised.

3.4. Drinking Water Safety Plans

Drinking water safety plans cannot currently be developed effectively without water-specialists, and even councils are struggling to find the resources in the industry to complete drinking water safety plans for large supplies. There will be very few knowledgeable people available to support private suppliers and potentially an industry of opportunists may develop, providing a copy-and-paste approach to drinking water safety plans, which is the opposite of what is needed. The nature of private water suppliers and supply types are wide.

² Letter from the Office of Hon Nania Mahuta's to Federated Farmers dated 3 September 2021



We also note that the lack of any drinking water safety plan templates or guidance means that it is hard to weigh up the difference in expectations for water suppliers between the two compliance pathways (Rules or Acceptable Solutions). If water safety plans are simple easy-to-use templates with questions and prompts for those who are not experts, then complying with the Rules may be a far easier path than complying with the Acceptable Solutions as drafted.

Recommendation: that Taumata Arowai provides very simple templates and guidance for drinking water safety plans and source water risk management plans, which can be used by people who are not experts in drinking water.

3.5. Definition of Reticulation

There is no more clarity in the Rules and Acceptable Solutions than in the Act about what is meant by a reticulated distribution system.

- Are pipes that serve multiple buildings on a single property a reticulated distribution system? (e.g. marae, papakainga, school, industrial site, farm)
- Pipes on a single property are covered by the Building Act and Building Code requirements, so would this not be considered a distribution system?
- What if a similar property was in multiple titles but was operated as a single property?
- Would a pipe between two neighbours sharing a spring or bore be considered a reticulated distribution system?

Recommendation: that Taumata Arowai provides a clear, pragmatic, risk-based definition of a reticulated distribution system e.g. A distribution system is a network of pipes, pumps and storage tanks that supplies water to more than one property and to at least 20 buildings.

3.6. Food Act and Wine Act

Some private water suppliers are covered by the Food Act 2014, the Animal Products Act 1999 or the Wine Act 2003 and as we understand do not need to comply with the Water Services Act. However, it is not always clear where these apply. For example, does a winery with a restaurant need to comply with the Water Services Act for the restaurant?

The Rules and Acceptable Solutions for suppliers that had both restaurants and houses on their supply network were more onerous for the houses than requirements for the restaurant under the Food Act. This was nonsensical to owners we engaged with.

Recommendation: that Taumata Arowai provides a clear guidance about the extent to which the Food Act, Animal Products Act and Wine Act mean that suppliers don't need to comply with the Water Services Act.



3.7. Cyanobacteria and Cyanotoxins

The rules for cyanotoxins will be difficult for private water suppliers to comply with. How would a small or very small water supplier know whether an algal mat in their surface water source is a benthic cyanobacteria mat or a planktonic cyanobacterial growth? Even very experienced water suppliers are unable to determine this. This can only be determined by an expert rather than every individual water supplier that uses a surface water source. We suggest this area requires further work and discussion to develop an effective and workable approach, and will require the input of Taumata Arowai, Regional Councils, and water suppliers. Implementation of Rules will require effective collaboration and understanding between Regional Councils, water suppliers, and consideration of the Source Water Risk Management Plans.

Recommendation: monitoring cyanobacteria and cyanotoxins requires further consideration as to where the expertise resides, and the how the various roles and responsibilities are allocated.

4. Conclusion

Drawing on the insights from the range of engagements held, it has become clear that the draft Rules and Acceptable Solutions appear to be both impractical and too onerous in their prescription for the scale at which they intend to serve.

The draft Rules and Acceptable Solutions set out to improve public health outcomes by addressing **all** risks posed by drinking water supplies. It appears that the Acceptable Solutions seek to eliminate risk altogether, rather than reducing risk to an acceptable level.

The Rules and Acceptable Solutions should be designed to reflect what is realistic and attainable.

We strongly encourage Taumata Arowai to stop, engage, review and reset the Rules and Acceptable Solutions to gradually increase the requirements to allow private water supplies to “grow” into the raised requirements. A step wise and **Pragmatic Approach** growing awareness, knowledge, and an improvement path to deliver on safer drinking water outcomes for our communities.





Appendix 1

Hawke's Bay Private Drinking Water Supply Project



Hawke's Bays Private Drinking Water Supplies Project

Access to private drinking water supplies, particularly in rural and remote areas, has significantly improved the quality of life for many communities. As one interviewee stated:

“Before the water [4 years ago], this is no exaggeration, you would save your bath water, everyone would use the same bathwater, you would use your bathwater for your washing... Sometimes you didn't have a bath. Sometimes you had to choose what clothes you would wash. And everyone had long drops. What the water does now, a wash day is only 9am – 12pm not 9am – 7pm at night. That's no exaggeration. It used to take that long. It's life-changing, and it has improved their lifestyle and living standard.”

This appendix documents the key insights and recommendations from the Hawke's Bay Private Drinking Water Supply Project:

- **Part A** describes the methodology and approach undertaken for the project.
- **Part B** sets out the key themes and insights to draw recommendations to Taumata Arowai based on the implications the Rules and Acceptable Solutions are likely to have on private drinking water suppliers.
- **Part C** provides the insights into the impact of the proposed Rules and Acceptable Solutions on community, social, cultural, economic and environmental wellbeing.

Introduction

The Water Services Act 2021 (the Act) requires more from both councils and private drinking water suppliers.

- The Act requires councils to complete drinking water supply assessments for their districts every three years, to understand and assess the nature, demand, safety and quality of their communities' drinking water services.
- The Act also extends the definition of a drinking water supplier to anyone who supplies drinking water to more than one domestic self-supplied household and provides new standards and Rules in the provision of drinking water.
- With this shift for councils and drinking water supplier responsibilities, the Hawke's Bay's four territorial authorities (Central Hawke's Bay District Council, Hastings District Council, Napier City Council and Wairoa District Council) established the Hawke's Bay Private Drinking Water Supply project.

The project was established in mid-2021 to engage with a representative sample (50) of private drinking water suppliers in our communities to establish the best approach to help understand and our new obligations under the Act. The project team met with a cross section of private drinking water suppliers across the Hawke's Bay to:

- Better understand our communities' private drinking water suppliers, their expectations and needs.
- Understand how the new regulations could be best implemented (from a council and community perspective).



- Engage with our communities to develop a repeatable methodology for drinking water assessments.
- Review the Government’s draft Rules and Acceptable Solutions with private drinking water supplier’s so that the implications of the proposals can be better understood.

The project will conclude at the end of April 2022 and a final report will be submitted to councils, providing a detailed analysis of the findings. Once this report has been formally received by councils, a copy will be provided to Taumata Arowai and published on the www.hb3waters.nz website.

Insight: It will be difficult for Councils to undertake community assessments under the Local Government Act section 125 amendment in the first three year period for the following reasons:

- Lack of quality information and systems to determine where private water suppliers are located.
- Inconsistencies with the Waters Services Act timeframe for Councils and the drinking water supplier’s timeframe to register. The first assessment will be particularly challenging as unregistered suppliers do not have to register for four years. It is anticipated that this process will become much easier once all water supplies are registered.
- Ambiguity as to what the scope of Council’s requirement eg: all private supplies being assessed vs areas where there are clusters of properties (the later seems likely given the requirements on councils to consider in planning). Unfortunately the definition of community in the Local Government Act does not provide useful direction for this, nor does the Water Services Act.



PART A –Project Methodology & Approach

This section discusses the methodology and approach for the project including:

- Identifying private drinking water suppliers
- Nature of private drinking water suppliers
- Engagement with private drinking water suppliers

Identifying drinking water suppliers

The project team sought to identify private water suppliers using a variety of datasets and sources including interviews with staff from the Councils and District Health Board, registered water suppliers data sets, and Council GIS data sets (water take consents, bores, buildings, properties connected to Council water supply networks, marae, and proximity to another private water supplier).

From this analysis, it is estimated that there are over **6,000** private water supplies in the Hawke’s Bay region. However, the actual number is still very uncertain.

The second phase of the project was to make the introductory calls with potential private water suppliers to:

- establish whether they were drinking water suppliers in accordance with the Act definition and not connected to a Council owned or operated supply; and
- seek their consent to participate in our project.

The primary research methods for engagement were in-person interviews, where a council representative, engagement researcher and a water engineer met with participants. These engagements included standardised survey questions about the nature and history of their water supply, a site visit and high-level assessment of their system, and a discussion of how they were likely to be impacted by the Water Services Act and the proposed Rules and Acceptable Solutions.

Some of the key challenges with the process of identifying private water suppliers were:

- Most of the data sources were points, and made it difficult to determine which properties were served by a private water supply. It was assumed that there were 2.6 people per house, and that the properties nearest to the water supply would be served by that supply.
- It is well known that neighbours often share water supplies, but it was unknown over what distance this would typically occur. A range of distances were used, from 150 m to 1000 m.
- Not all buildings are habitable and therefore need a drinking water supply. It was assumed that only buildings with a footprint of more than 40 m² would be habitable.
- Councils had varying levels of knowledge about private water suppliers across their district and property files did not store water supply source as dedicated fields in systems.
- Systems were not integrated so when a potential water supplier had been identified, contact details for the property owner were often difficult to find. Also the property owner and the resident are often not the same.



- It was sometime difficult to determine whether a water supply was covered by the Water Services Act or by other legislation (e.g. Food Act 2014, Wine Act 2003 or Animal Products Act 1999).
- A flow diagram was developed to assist with identifying potential private drinking water suppliers. However, due to the limited information, participant knowledge and complexities associated with the nature of the supply, there were a number of engagements undertaken where it was determined that they were not a private drinking water supplier.

Nature of Different Types of Suppliers

The Act provides a broad definition of a drinking water supplier. Under section 8 of the Water Services Act 2021 “unless the context otherwise requires”, a drinking water supplier:

(a) means a person who supplies drinking water through a drinking water supply; and

(b) includes a person who ought reasonably to know that the water they are supplying is or will be used as drinking water; and

(c) includes the owner and the operator of a drinking water supply; and

(d) includes a person described in paragraph (a), (b), or (c) who supplies drinking water to another drinking water supplier; but

(e) does not include a domestic self-supplier.

The project sought to engage with private drinking water suppliers that met the criteria as defined above and

- Are not owned and/or operated by a Council or Government agency
- Who supply drinking water to anyone other than their own domestic household
- Do not have an exemption under section 6 of the Act (where they would be regulated instead by the Food Act 2014, the Animal Products Act 1999 or the Wine Act 2003)
- Provided a range of private water supplier types.

The table below shows the main types of private drinking water suppliers that were identified and engaged with as part of the project.

Type of Private Drinking Water Supplier	Description
Accommodation Facilities	Accommodation facilities are a type of supplier that charge a rent, membership or fee for their land or buildings in exchange for people to stay temporarily, and drinking water is supplied as part of the facilities. This includes campgrounds, Airbnb, Bookabach, and the New Zealand Motor Caravan Association (NZMCA).



Type of Private Drinking Water Supplier	Description
Beach Communities	Beach communities are those who reside in coastal environments and may be a mix of full- and part-time residents. A private drinking water supplier may have a source of water such as a bore located on their property which they share with neighbours. This type includes baches and holiday homes.
Business Organisations	Business organisations are those who own or manage a business (excluding farmers and horticulturalists which are covered below). They may supply drinking water to the public as part of their operation or own/lease additional property that supplies drinking water to others. This type could include businesses that employ workers or the public that use their facilities.
Community Facilities	Community facilities are community buildings owned and operated by community groups, such as trusts or incorporated societies. This private drinking water supplier provides drinking water when the community gathers at the facility for functions or ceremonies. This includes private sports clubs, golf clubs, churches, mosques or other religious places to gather. It could also include community halls or libraries that are not associated with a Council.
Community Water Filling Stations³	Community Water Filling Stations provide a place for the public to fill their own water bottles or tanks from their water source.
Farmers	Farmers manage land that is used to rear animals. These private drinking water suppliers may have woolsheds /dairy sheds/implement sheds where drinking water is provided, and/or workers' housing.
Horticulturalists and Viticulturists	Horticulturalists and Viticulturists manage land that is used to grow and process crops. This private drinking water supplier may have Recognised Seasonal Employer (RSE) accommodation, and drinking water is supplied as part of the facility or at stations within the workplace.
Kaumātua Flats²	Kaumātua Flats are a type of supplier who own or manage the homes where kaumātua live. This private drinking water supplier may be a resident who lives there themselves and supplies to others, or an organisation that supplies a set of units or detached dwelling for them to live in. These flats may be located next to marae, papakainga or be held on Māori Reservation Land or Māori Land Blocks.
Marae	Marae are a type of supplier who look after the meeting place for people to undertake traditional Māori cultural practices and host visitors. These may be trustees of the marae, or others who care for these spaces, which are often located within Māori Reservation Land.

³ This type of supply was anticipated as a potential private drinking water supplier, but they were not engaged with as part of this project



Type of Private Drinking Water Supplier	Description
Papakainga	Papakainga are those responsible for groups of houses where Māori communities live in a communal or traditional way. These private drinking water suppliers may be an organisation or trust who rent to whānau, or people may own their house on land that is collectively held (for example in a family trust).
Privately-owned Community Based	Privately-owned community-based water suppliers manage a small network, supplying to multiple houses. This private drinking water supplier could be an incorporated society or trust who runs the supply through a membership base where participants buy into the scheme through a formal agreement.
Rural Settlements	Rural Settlements are those who live in a rural setting and are not connected to a reticulated municipal drinking water supply, including rural subdivisions. These private drinking water suppliers may own a property that has a bore or spring that supplies drinking water to neighbouring properties, for example.
Urban Infill²	Urban Infill are within urban environments, and are not connected to reticulated municipal systems (which may exist nearby). These private drinking water suppliers may have a water source such as a bore located on their property which supplies to adjacent neighbours.
Retirement Homes²	Retirement Homes are networks of housing rented to, or bought by, people who are retired from working. This private drinking water supplier may be owned by an organisation or collectively.



Initial Engagement with Private Water Suppliers

Having established a representative sample list of private water suppliers the next step was to make the introductory calls with potential private water suppliers to:

- establish whether they were drinking water suppliers in accordance with the Act definition and not connected to a Council owned or operated supply; and
- seek their consent to participate in our project.

The initial engagement phase was particularly difficult for the following reasons:

- Access to resources with the right level of understanding and broader Three Waters Reform context and skills to support the 'cold call' aspect of this engagement.
- The consent process that was required and the Council requirement to disclose their obligation under the Act to report any significant concerns identified in a water supply assessment to Taumata Arowai. The consent form was seen as intimidating and alarming to some potential participants, and some subsequently chose not to participate.
- There was a perception among some that the Councils were the long arm of Government, seeking to enforce compliance with draft Rules before the Rules were in effect.
- People were generally hesitant to engage and there were many who declined. Predominant reasons were political party positions, views of the Three Waters Reform, or because people felt nervous to disclose information on drinking water supplies with Councils.
- The project contacted over 185 individuals over the phone, which led to just over 50 in-person engagements

The primary research methods for engagement were in-person interviews, where a council representative, engagement researcher and a water engineer met with participants.

These engagements included standardised survey questions about the nature and history of their water supply, a site visit and high-level assessment of their system, and a discussion of how they were likely to be impacted by the Water Services Act and the proposed Rules and Acceptable Solutions.

As the assessment phase gathered momentum and resulted in insightful and positive engagement experiences, the project team started to receive unsolicited requests to meet with further suppliers. This was in main part because participants and our communities had no visibility or knowledge of the legislative changes and proposed rules and wanted to understand how they would be impacted.



PART B – Key Themes and Recommendations

The following key themes emerged as part of our engagements with drinking water suppliers and recommendations have been suggested for each key theme.

Lack of Awareness and Disconnect from the Consultation Process

Insight: Most of the private water suppliers surveyed had no knowledge of the Water Services Act 2021, the new definition of a drinking water supplier, Taumata Arowai or the draft Rules and Acceptable Solutions. 98% were not aware that the draft Rules and Acceptable Solutions were being consulted on.

The majority of the suppliers contacted during this project did not realise that they were now defined as a drinking water supplier under the Act, and that they have (or will have) new duties and liabilities as a drinking water supplier.

Only three suppliers had read the draft Rules and Acceptable Solutions. Very few people had heard of the regulator Taumata Arowai, with some stating the name was tricky to remember or identify with water to find online.

The project initially identified over 6,000 potential private water supplies in the region based on data sources, however through the engagement phase we discovered that there will be many more. The scale and impact of the proposed changes needs to be more strongly considered by Taumata Arowai.

Communities have not received a targeted communication and engagement process regarding changes under the Water Services Act and the Taumata Arowai consultation on the new Rules and Acceptable Solutions. This means that our communities have not had the information, time or even awareness to meaningfully engage with a consultation process.

There was a strong sentiment of frustration that the Government was imposing more regulation and costs on their sector, business, communities and households without proper consideration and consultation. This led to feelings of scepticism and distrust in the Government, Taumata Arowai and its consultation process.

People did not feel they had a proper opportunity to contribute to the consultation, even though they would be directly affected. Impacted communities need to have their say.

This was further compounded with previous experiences where people had spent significant effort and time to provide feedback on previous consultations but did not think their submissions had been acknowledged or even considered.

Suppliers often asked whether their concerns would be genuinely listened to. People also mentioned that they were very busy and that there is a lot of information and documents being consulted on, much of which was technical in nature and difficult to keep up with.

“Will the submission make a difference? We submitted a 50-page document on the climate change bill and received no reply ... It feels like you get ignored.”

“The people who write this are in Wellington and have no idea what the practicalities of this are on the ground.”

“We can't see the draft standards changing much.”



Recommendation: We strongly recommend that Taumata Arowai delays the implementation of Rules and Acceptable Solutions and undertakes further engagement on revised versions of the documents that address the concerns we raise in our submission. Given that tens of thousands of private water suppliers are affected, there needs to be a comprehensive communications and engagement campaign to make sure that they are adequately informed and their views are heard as part of a consultation.

Who is Responsible?

Insight: A common question asked was who was responsible for the supply.

A key discussion point in the engagement with suppliers was about determining who was responsible for the supply and therefore liable to comply under the Act, Rules and Acceptable Solutions.

The nature of drinking water supply arrangements varied widely and the majority were complex to understand. Supply arrangements ranged from those that served multiple properties and had easements in place, informal handshake agreements, and formal structures through to inherited agreements that property owners wanted to get out of. Often where there were multiple parties involved it was difficult to determine responsibilities.

Community schemes, trustees and volunteer committees expressed concern and the risk in having to assume legal responsibilities and liabilities for the supplies. Communities will be at risk of losing their skilled volunteers under the changes.

Supplies formed from historical 'handshake agreements' felt they were now being penalised for providing a 'community good' to their neighbours and communities.

"If something happened and if we supply free water, surely neighbours wouldn't get angry but they might, then they could try and take me. It might not even be the neighbours who would want to, but it could be... other people who will be obligated to prosecute".

"I have an easement with the one neighbour but... the other neighbour beside me, wanted access to my bore water - and he made an agreement with the neighbour who just takes a hose to fill his tank as well. Am I legally responsible for it?"

The participant expressed *"That they were being prosecuted for doing a neighbourly good. If they were to know something like this was going to be required, then it would have been a different consideration."*

Recommendation: The Water Services Act should be amended to provide better definitions about who is the water supplier for water supplies where there are multiple parties involved. This should not be left to case law to be interpreted.

It would be helpful to provide guidance template examples about governance structures for private water suppliers who are not yet registered, to mitigate thousands of private water suppliers having to engage legal services at significant cost.



Lack of Flexibility

Insight: The draft Rules and Acceptable Solutions do not adequately allow for the wide variety of different contexts and supply arrangements that people are in and in many cases impractical for suppliers to implement.

Suppliers raised consistently that the draft rules and Acceptable Solutions did not make logical or practical sense for their nature of their supply and in many cases, had 'gone too far'.

There was strong sentiment from agricultural, horticulture suppliers and marae, who have an intimate understanding of their supply, how it works and deep intergenerational knowledge regarding the surrounding source environment.

Views were that Rules and Acceptable Solutions should be appropriate to the scale, risk and nature of the situation and there should be provision for solutions that allow for untreated water if there is sufficient proof that the water is safe to drink. One common suggestion (which the majority of suppliers acknowledged they would be willing to do) was to undertake increased testing to demonstrate the safety of their water, before needing to take subsequent measures to install expensive treatment equipment.

Some suppliers saw the Rules increasing risks to safe water. One supplier skilled in the management of treatment systems expressed his concern and lack of confidence in managing chemicals. Those who are not appropriately trained in the use of chemicals, could pose a more serious health risk to people than the risk associated with current untreated water supplies.

The draft Rules and Acceptable Solutions do not always align with existing regulations such as the Building Code or Regional or District Plan Rules. Examples of this were:

- A papakainga development under construction was installing end point treatment devices so that the houses had potable water under the Building Code. However, as it is a bore water supply, end point treatment is not permitted in the Acceptable Solution or Rules and so an additional centralised treatment plant would need to be installed.
- The backflow prevention requirements are inconsistent with Clause G12 Water Supplies of the Building Code. The hazardous activities listed in the Acceptable Solution are not consistent with Clause G12, with several activities that are medium hazard under the Clause G12 being classed as high hazard in the Acceptable Solution. Air gaps are a common method of backflow prevention in rural communities but are not allowed for in the Acceptable Solution for high hazard activities, but they are allowed in Clause G12.
- The allowable separation distance between bores and effluent disposal fields is 30 m in the Hawke's Bay Regional Plan but is 50 m in the Acceptable Solution.

Many suppliers have installed infrastructure which meets current regulatory requirements, but which will not meet the requirements of the draft Rules and Acceptable Solutions. If flexibility is not considered in relation to existing compliant infrastructure, then there will be significant additional costs to comply with new standards.

Participants wanted pragmatism and the flexibility to demonstrate that existing treatment systems are of an acceptable quality and provide safe drinking water until such time that a treatment system needs to be replaced. The Water Safety planning (WSP) pathway should, if scalable and pragmatic, ideally be the



appropriate pathway for water suppliers to take and consider their current system and supply risks, unfortunately at this time we are not aware of how complex the WSP process maybe for private suppliers.

“We have gone through all the legal requirements with Council to cover off everything with the Papakainga. Council has approved this system - does this work for Taumata Arowai?”

“There needs to be flexibility around requirements - e.g. you don’t need double-backflow prevention if water is coming down a hill”.

“They seem over the top.”

“We had a treatment tank set up... and use to put chemicals in but "it was a pain in the butt”.

“The Regional Council says 30m from an effluent field but these rules say 50m - whose do we listen to?”

Recommendation:

Adopt the Pragmatic Approach for private water supplies to engage, educate, build relationships, trust, and gradually increase the understanding and level of competency in the sector while minimising unintended consequences. The Rules and Acceptable Solutions need to be significantly simplified and made less onerous to encourage and enable compliance. For private water suppliers serving <25 people we propose that the Rules and Acceptable Solutions are removed and instead focus on an engagement and education programme supported with guidelines for the monitoring and end-point treatment solutions to mitigate risks associated with supplies.

The Rules and Acceptable Solutions need to be consistent with other regulations such as the Building Code.

Disempowering Communities

Insight 6: The Rules and Acceptable Solutions appear to disproportionately overload those drinking water suppliers working in a volunteer capacity or who supply water as a community good.

All suppliers the project engaged with want to ensure they are providing safe water to their whanau and communities, but there was concern that the Rules and Acceptable Solutions did not account for the nuanced approaches and knowledge people have around determining their own well-being.

Where schemes were run by knowledgeable volunteers or retirees, people were seriously concerned and expressed hesitancy or unwillingness to be subjected to the increased responsibilities and personal liabilities. Others felt that the draft Rules and Acceptable Solutions set requirements, obligations and costs beyond what was reasonably expected of community supplies. This all lead to questions about whether these schemes could feasibly continue.

“This is coming and it's going to be a lot more responsibility, my daughter just told me to get rid of [the water supply]. But no one else is going to want to take this responsibility on”.



“We read [the draft Rules and Acceptable Solutions] several times and were worried. The document created anxiety. Need to use simple language.”

Recommendation: To assist the wide variety of different scenarios, it is recommended that a more flexible and **Pragmatic Approach** is developed.

For volunteer communities this should focus on how best to create a supportive space for community to begin conversations around safe access to their drinking water supply. For others it could acknowledge existing skill sets and encourage shared responsibilities, particularly for those community orientated or more informal arrangements.

Kaitiaki of Papatūānuku and Ranginui

Insight: The Rules and Acceptable Solutions fail to sufficiently incorporate Te Ao Māori approaches to caring for the water and people.

The draft Rules and Acceptable Solutions were often viewed to be in contrast with Te Ao Māori principles to caring for the water and their people. Marae and Papakainga whānau were concerned that the Rules and Acceptable Solutions conflicted with their rights under Te Tiriti o Waitangi to protect their own taonga. Some stated that water is a part of their whakapapa and that tikanga on the marae is used to protect water supplies, as well as applied to ensure that everyone is safe on the marae. That is, how can a marae demonstrate something as basic and normal as 'manaakitanga' if people are going to get sick? Tikanga is not only applicable in traditional and or cultural contexts, but can also be applicable in pragmatic contexts for well-being of marae whānau and mana whenua.

Many marae are located on Māori Reservation land, which people felt they collectively held the responsibility to make decisions around the protection of their water supplies in ways that make sense for them and the benefit of their whānau. For example, continuing the practices that their tīpuna had taught them and ensuring that tamariki will continue these important practises as kaitiaki into the future.

“It's our way of life here - we have our own tikanga that protects our water sources”.

“Water is a part of our whakapapa - it is Rangi and Papa.”

“Māori don't have the problem, we stand firm with how we look after our water - it's all those around us, this big business that take the mauri.”

“Our tīpuna owned their water it was for everyone. And if we are in turn, a Supplier, as a trustee, then we are only just the caretakers for all. How can we be privately owned...? To who? Everyone in our hapū has this ownership.”

Recommendation: It is recommended that an approach that more closely aligns to Te Ao Māori principles is drafted in close collaboration with mana whenua to consider appropriate solutions for those who hold kaitiakitanga over their whenua and water, and in ways that can uphold specific tikanga and kawa, unique to that place.



Increased Cost and Limited Access to Contractors and Equipment

Insight: The Rules and Acceptable Solutions will create high demands on private water suppliers, increasing the cost, capacity and capability requirements and putting pressure on water supply equipment and services.

Many private drinking water suppliers looked after their systems themselves, and in more remote locations, people did not see how they would be able to obtain the expertise contractors, parts or services needed to meet the significant expectations that are proposed.

The requirement for validated UV treatment systems will impose further costs on suppliers that already have existing non-validated UV treatment systems and some private water suppliers could not see any benefit in this where they feel that they are already providing safe treated water.

There were also concerns that maintaining reliable power to rural locations was difficult, and some had moved or were considering moving to solar power. This is not provided for in the Acceptable Solutions, which require treatment plants to be connected to mains power. The primary objective should be to ensure that power is available to the plant, from whatever adequate source maybe.

The tight timeframes for registered drinking water suppliers to comply with the Rules and Acceptable Solutions further escalates the issue of capacity, demand and supply chains, making it difficult for them to comply within the timeframes.

Previously water suppliers could access Government funding through their Drinking Water Assessor to upgrade their water supplies, but this fund was discontinued some years ago.

“What about the dates for the November deadline of compliance for registered drinking water suppliers? If [we] all go out and get UV and backflow etc. the ability of a supplier to provide that for people is going to be difficult. Going to be a big issue”.

“When I was part of the Water Safety Officers - we had a carrot and that carrot was funding.”

Recommendation: It is recommended that a funding support plan is developed and implemented in collaboration with private water suppliers, to help fund the improvements required.

It is also recommended that procurement (All of Government (AoG) type approach) at a national level is considered for a range of approved components and materials required by suppliers, and that this purchasing option is made available to all private suppliers in order to reduce costs to households and businesses.

Potential for People to be Cut Off

Insight: The Rules and Acceptable Solutions add stress, cost, liability and ongoing demand for private water suppliers that in some cases, make it easier to cut off water supplies than comply with the proposed requirements.

Some private drinking water suppliers discussed the stress and community mental health capacity to take on the additional compliance requirements that the draft Rules and Acceptable Solutions will impose. They were also concerned about their capacity to meet the requirements from a cost perspective and the ongoing compliance requirements to maintain their drinking water supplies.



People often mentioned that it was likely that water supplies will be cut off, or result in serious disagreements between neighbours and within communities. This was particularly distressing for people interviewed where the supplier had a personal relationship e.g.: friend, a longstanding neighbour or fellow community member.

Larger scale private water suppliers were also concerned about the increased cost and liabilities associated with continuing to provide drinking water. Examples included an owner responsible for providing water to multiple properties, orchardists, and trustees involved in privately owned community-based drinking water supplies schemes, one of which had up to 90 houses on the same network.

Some of these schemes were originally established with Government co-funding and the feedback was that the Government needs to provide funding and support for them to continue and review the burden of liability where they are providing a community good.

In rural communities with tenanted farmhouses on properties, people raised concerns that the regulations could lead to property owners refusing to rent out properties to those who need them because of the liabilities and additional costs, which is a particularly relevant concern given the current housing crisis.

“People will be working out ways to get around this regulation. Which could mean that they’ll go underground... rather than being upfront. Councils or the Regulator will know even less about what is happening with the private drinking water supplies than they do now... if they don’t have the obligation to supply, then they will just cut off the supply. They will take alternative measures not to be a private water supplier”.

“After the legislation came out, the Lawyer said to go home and cut [the water supply] off.”

“[But] we are the ones who have to live in this community.”

Recommendation: Taumata Arowai considers the unintended consequences associated with the draft Rules and Acceptable Solutions.

Adopt the Pragmatic Approach for private water supplies to engage, educate, build relationships, trust, and gradually increase the understanding and level of competency in the sector while minimising unintended consequences. The Rules and Acceptable Solutions need to be significantly simplified and made less onerous to encourage and enable compliance. Private water suppliers serving <25 people we propose that the Rules and Acceptable Solutions are removed and instead focus on an engagement and education programme supported with guidelines for the monitoring and end-point treatment solutions to mitigate risks associated with supplies.

A Treaty Partnership Framework

Private drinking water suppliers challenged the public consultation process adopted by Te Taumata Arowai, particularly the draft Rules and Acceptable Solutions and also the way in which they have been developed and written. They stated that the Treaty Partnership Framework is about equity and to look at the means through which people are able to respond on equitable terms from their position and in their own way. Equity is about acknowledging place and difference and so a Treaty partnership framework should not be generic rather, specific and local for instance to a particular marae and its hapū.



The supplier communities need to work alongside the regulator to coach each other in how to respond to the challenges of drinking water supplies together, and this needs to be understood within the context of the bigger narrative around water.

“Take a look at this from a Treaty Partnership Lens. Partnership Framework is about equity - which everyone has the right amount of resources to respond to and create the outcomes that are needed for them.”

Recommendation: It is recommended that the Rules and Acceptable Solutions, along with the consultation process are developed and work within a treaty partnership framework that acknowledges place as well as diversity, that is, tino rangatiratanga and mana motuhake

A case for alignment and connection with existing standards, audit and regulatory systems

Insight: Existing accreditation programmes exist for many suppliers and there is an opportunity for the Rules and Acceptable Solutions to align with these.

Many private drinking water suppliers were part of existing accreditation or regulatory systems that required them to meet multiple levels of compliance. For example, dairy farmers and horticulturalists who export products have their water monitored through Fonterra and Global GAP (Good Agricultural Practices) respectively. This ensures they uphold high standard of practice (including for drinking water) which is often accompanied by extensive audit processes and documentation to prove it. People were reluctant to add another layer of compliance, monitoring and audit on top of these obligations. Suppliers felt it would be more efficient and practical to find a way that the draft Rules and Acceptable Solutions could align with compliance, regulations and accreditation systems that they already have to comply with.

“I have 13 accreditations that the business needs to meet. This drives the actions we take regarding drinking water. Global GAP as an exporter”.

“We have gone through all the legal requirements with Council to cover off everything with the Papakainga. Council has approved this system - does this work for Taumata Arowai?”

“Just had a test through Fonterra.”

“As part of their accreditation through Global Gap (it is compulsory as an exporter to go through Global Gap), and the assurance programme, supplier has ramped up their testing to 4 times a year. This accreditation includes all the sustainable practise, labour and environmental monitoring for the supplier.”

“Water is monitored and all the water information is sent to the Council as part of the water take consent. Council will call us up if we have gone over our daily limit for a day so you guys have all the information you will need anyway.”



Recommendation: It is recommended that Taumata Arowai reviews existing compliance arrangements to see where these can be integrated with existing sector systems, to reduce the compliance burden on private water suppliers.



PART C – Impacts on Community, Social, Cultural, Economic and Environmental Well-beings

This section focuses on the impacts the draft Rules and Acceptable Solutions from a community well-being lens and provides further insights in terms of social, cultural, economic and environmental well-being.

Impacts of the Draft Rules and Acceptable Solutions on Community Well-being

Many private drinking water suppliers are managing supplies for friends, whānau and neighbours who live in their own communities, more often than not for a public good, rather than for any financial or personal gain. Private drinking water suppliers acknowledged that no one wanted to see people get sick nor were they acting intentionally negligent. However, the proposed approach will unreasonably penalise private drinking water suppliers for providing a source of water to others.

The way that the draft Rules and Acceptable Solutions have currently been proposed to communities has the potential to create wider negative impacts on the well-being of water suppliers and their communities, including:

- Causing additional stress and burden to people’s livelihoods and workloads.
- Financial costs, which appear to weigh heavily on private drinking water suppliers, making their commitment to continue to supply water unviable in many cases.
- Cultural practices and intergenerational skills and knowledge that have been built into people’s way of life, leaving them feeling undermined and overlooked.
- In the case of pristine natural, untreated water, the draft Rules and Acceptable Solutions were seen to unnecessarily interfere with the aspect of their existing drinking supplies that people value the most, resulting in a feeling that there is no compromise or control over the environment they have chosen to live in.

Impacts of the Draft Rules and Acceptable Solutions on Social Well-being

The key impact of the Rules and Acceptable Solutions have on social well-being broadly relate to:

- Supplies as a community good are at risk
- Schemes as community connectors may be lost
- Neighbourhood tensions
- Increased mental health issues.

Supplies as a Community Good at Risk

Insight: Community supplies have provided life changing improvements which could become unsustainable.

Often private drinking water suppliers provide water to assist others such as neighbours, family, friends or the wider community as a community good. However, the draft Rules and Acceptable Solutions have



caused them to rethink this approach due to the implications that this would have on their personal liability and also the financial implications.

In the case of community-run schemes, volunteers have invested significant time and effort into building and maintaining systems, some to a very high standard, but the draft Rules and Acceptable Solutions raises doubts over whether some of these would have the resources, time or money, or are prepared to accept the liability to continue.

This has serious, and in some cases, life changing, implications particularly for rural communities who have had experiences of living without reliable access to a supply of water for their daily needs.

“Under the World Health Organisation guidelines, they hold the importance of access to water higher than water safety.”

“I understand why it has been done (Regulation) but “no one wants that” (to have to cut people from water).”

Schemes as Community Connectors may be Lost

Insight: If suppliers stop supplying water a consequence will be the erosion of people’s social connection in their communities.

It was apparent that neighbourly arrangements or community schemes can act as a community connector, especially in rural communities, where everyone works together around a common problem. However, this may change if it becomes too hard.

People likened this to the closure of rural schools which were at the heart of communities or community swimming pools that closed down because the liability was too great.

They see the consequences of the draft Rules and Acceptable Solutions, if suppliers stop supplying water, as further eroding people's social connection in their communities.

“The whole group around here - take a look at their way of doing it. The community group has mobilised around a shared problem.”

“It’s the same with school pools. A lot of country pools have shut because people are not willing to take on the liability.”

Neighbourhood Tension

Insight: There was concern that the draft Rules and Acceptable Solutions could create tensions among suppliers and receivers of drinking water supplies as they tried to make sense of their responsibilities.

Some suppliers already have issues with existing supply agreements, or have inherited them unwillingly. Formal agreements such as covenants and easements over land were also difficult to navigate, as was subsequent subdivision on neighbouring land that connected into existing water supplies, increasing levels of responsibility without the supplier necessarily having control over who it was they were supplying to.



Those that receive water were also concerned as they have little control over the supply of water to them. In rural communities, water is their lifeline for both life and businesses.

There was concern that these new requirements could feed into tensions, resentment or disagreements among neighbours and communities as they tried to make sense of how they were going to be impacted, what the cost would be, and who is responsible for certain aspects of each supply.

“It’s terrifying for people who are told during 30-degree weather that they are going to get their water turned off.”

“There is a social responsibility that will have an impact on us. It’s our family who have come back to their roots.”

“The main thing for us is water for stock. We have got to guarantee this otherwise we have no business.”

Increased Mental Health Risks

Insight: Many felt the draft Rules and Acceptable Solutions were yet another layer of bureaucracy to add to the already high levels of stress that people are under.

Many of the participants in the project were busy and some found it difficult to make time for an interview, as they dealt with a variety of competing demands.

It was very clear that the requirements of the Act, draft Rules and Acceptable Solutions could quickly become a source of further stress, compounding the level of mental health issues that already exist in isolated and rural communities. As one person commented:

“Mental health is real and it is unbelievable the stress that people are under. The wider impact of a decisions like this will reach all corners of well-being.”

“Because of the current environment/COVID, people’s emotional shock absorbers are not overly resilient so their ability to understand changes or take on more information can be difficult.”

This sense of being overwhelmed by further regulatory requirements was palpable during many interviews, with people needing time to understand what the Act, Rules and Acceptable Solutions meant for them and raising concern on how they would cope and manage.



Impacts of the Draft Rules and Acceptable Solutions on Cultural Well-being

The key impact that the Rules and Acceptable Solutions have on cultural well-being broadly relates to the notion that:

- Cultural knowledge specific to place (mātauranga-a-iwi) should apply
- Water is central to tikanga practices and to the application of rangatiratanga
- There is ingrained inter-generational knowledge and mātauranga-a-iwi to consider
- Considerations to the socio-cultural and historical contexts of mana whenua should be foremost.

Cultural Knowledge Should Apply

Insight: The draft Rules and Acceptable Solutions appear to have been drafted without considering the historical experience and cultural customs.

Suppliers each exist in the nuanced context of their communities with specific knowledge and experience of their own systems. When speaking with people, many stated that the draft Rules and Acceptable Solutions have been drafted without considering the historical knowledge, skills and experience and cultural customs which had been passed down through generations and that they will be ‘imposing’ on those existing bodies of knowledge.

For example, some spoke of their rights as kaitiaki of their land and water and that their responsibilities to uphold tino rangatiratanga to care for their people under the principles of Te Tiriti were being undermined. On Māori Reservation land, it was believed that it should be up to the marae trustees (of that reservation) and their hapū to look after their drinking water supply systems. The Rules and Acceptable Solutions are set out in a prescribed manner without taking into account the tikanga of each marae that have often been implemented long ago to safeguard many things including their cultural identity and the provision of water supplies for manuhiri, whānau and hapū.

“We are kaitiaki, we are scientists too and should be listened to with regard to the knowledge we hold about our place.”

“When science meets culture, that is where the tension occurs and there has got to be a compromise”.

“There is law and then there is lore.”³

Water is Central to Tikanga Practices

Insight: If Rules and Acceptable Solutions were unable to be met due to financial burdens or capacity issues, this will have huge implications for the ability of marae to function and practise its tikanga-a-iwi.

Water is fundamental for marae to host and apply tikanga, but there are often other important priorities competing for resources. Some interviewees indicated that their marae rely on grants and do not have regular forms of income. Therefore, if Rules and Acceptable Solutions were unable to be met due to financial burdens or capacity issues, there would be huge implications to host tangihanga, pōhiri and undertake hākari.



There needs to be further discussion from Te Taumata Arowai in how it will financially invest and support Māori if the draft Rules and Acceptable Solutions are placed upon marae to adhere too. This investment should include training for Kaitiaki in ensuring that safe practices are being carried out in accordance with these draft Rules and Acceptable Solutions, but equally ensuring that Māori are empowered to incorporate their mātauranga-ā-iwi.

Marae trustees felt that the marae was owned by all whānau who whakapapa to that place, with responsibilities being shared:

“Part of the welcoming function of a marae is to host, the tikanga of manaakitanga is a key part of being on a marae. If we can't look after the physical well-being of our visitors, then we are not able to open.”

“That’s our manaki - we are keeping people safe.”

Ingrained Generational Knowledge

Insight: Many felt the draft Rules and Acceptable Solutions were yet another layer of bureaucracy to add to the already high levels of stress that people are under.

The draft Rules and Acceptable Solutions require training and reporting elements that do not account for the technical expertise that people hold, exemplified in the case of rural farmers. Farmers described how they had learned to find solutions to complex problems, with many spending decades building up knowledge of their water sources and systems. In these cases, and many others, being directed on what to do, meeting training requirements, or having to outsource work to a contractor was seen as disempowering, and contradicted their skills, expertise, values and approach to work.

“My father would be upset if he was being told what to do with their water.”

“It feels like an invasion of how we have always done things.”

“It is just bad business if we don't supply safe drinking water to our workers. We don't want to have unsafe drinking water, from a health perspective, a farm and business perspective it doesn't make sense either.”

“We look after the supply for our own health, our families and the workers “

Consider the Cultural Context

Insight: The draft Rules and Acceptable Solutions need to consider the cultural context in which they are asking for change.

The draft Rules and Acceptable Solutions need to consider the cultural context in which they are asking for changes. That is, there needs to be an acknowledgement of past experiences managing water systems and associated rights under the Te Tiriti o Waitangi for there to be a true partnership approach towards creating practical solutions that communities see the benefit in taking up. Many felt there was little room to provide feedback, or no other option but to go along with the new Rules and Acceptable Solutions, with one person stating:

“I know there is raru and to move forwards we have to put things aside and leave it in the past, and I don't see any other way around this so we need to talk to you”.



This formed part of a wider sentiment that people were somewhat forced with no alternative such has been the historical legacy for many who expressed such views. They did not feel confident that there was an opportunity to also see potential solutions from a Te Ao Māori viewpoint, or influence the process in a meaningful and constructive way and so, such pathways need to be opened up and or made clear for whānau rather than being seen to be subjugated beneath the confusing rhetoric.

Impacts of the Draft Rules and Acceptable Solutions on Economic Well-being

The key impact of the draft Rules and Acceptable Solutions have on economic well-being broadly relate to:

- Unaffordable levels of investment
- Compliance costs
- Marginal health benefits for significant economic cost
- Reasonable costs for continued access.

Unaffordable Levels of Investment

Insight: Most private drinking water suppliers had significant concerns and questions about what exactly each aspect of the system would cost.

There was significant concern that meeting the draft Rules and Acceptable Solutions would have an impact on private drinking water suppliers' economic well-being, as they would require a level of investment that many would be unable to afford.

Participants were concerned that the draft Rules and Acceptable Solutions had not been well publicised or communicated. Some suppliers have already invested significant resources into their system and none of those interviewed had planned for these future costs.

Almost all suppliers had questions about what the changes would cost (including on-going costs) and if they would have support to access equipment and services for which there is likely to be unprecedented demand. The need for support to access funding and capability to work through the requirements were also raised.

A common sentiment was that business owners such as farmers saw selling their business to be a more viable option due to the overwhelming compliance requirements Government were imposing across their sector.

"The cost for people is frightening."

"If he has to implement these standards to every property, it is not practical and would be hugely expensive."

"I'm glad to be getting out of farming - we have enough to worry about."



Compliance Costs

Insight: People found it hard to justify the cost of compliance, especially when many had never had issues with their water source.

Businesses, farmers and horticulturalists that were interviewed want to ensure they are providing safe drinking water to their workers and families, but the vast majority were concerned about the financial and compliance burdens to meet the new requirements.

Larger scale commercial businesses were more easily able to plan for the draft Rules and Acceptable Solutions than small businesses, as they had the staffing resource and financial means to plan for and adapt.

People asked if registering their supply would cost them money, and subsequently, would costs be passed onto water suppliers for auditing and compliance purposes. They advised that this has the potential to lead to increased rent on properties as part of the supply.

Another point raised was that people who had historical handshake or informal arrangements to supply water may not want to enter into formal agreements with those they supply, as it will lock any future owners into this responsibility which could be a deterrent for resale purposes. These regulations have the potential to devalue property prices.

Many suppliers already have UV and cartridge filtration treatment systems that would not meet the new requirements (or validation standards) of the draft Rules and Acceptable Solutions, adding more costs for an upgrade when they are already managing the safety and quality of their water.

“I'd have to get someone external to do this, which will cost”.

“Legislation is written to the landlords, but it will affect the tenants. This is similar in that it will be a hugely significant consequence as it could result in people being without water or having to pay for it in one way or another.”

Marginal Health Benefits for Significant Economic Costs

Insight: The cost takes away from people’s ability to spend on other important aspects of life.

Many private drinking water suppliers theorised scenarios where people were unable or unwilling to meet the draft Rules and Acceptable Solutions, or conducted a cost benefit analysis and decided against continuing as a private drinking water supplier.

Potential consequences were people either cutting off supplies, discontinuing rental agreements associated with the supply, or passing on costs to tenants. Comments were made that this increased cost would only be making marginal public health gains for many small suppliers, who could not spend that money on other family/whānau goals such as paying off debt or affording activities for their children.

“They are making marginal gains with water safety and that is not going to necessarily have better outcomes for our people. This is money we could have used to pay off our mortgage, or for whānau activities or our children's piano lessons.”



“It costs \$7,000 a year just to insure at the moment. To get other stuff done on top of this is disheartening.”

Reasonable costs for continued access

Insight: Costs need to be reasonable to ensure that it is not a driving force for removing people’s access to drinking water supplies.

Financial/funding assistance and access to reasonably priced goods and services were consistent points raised by private drinking water suppliers, alongside clarity around what exactly they needed to do based on their set-up.

Private drinking water suppliers suggested that there be flexibility and a more pragmatic approach around the requirements based on their system, situation, capability, location and context. For example, many were happy to provide additional levels of testing, but did not believe they needed to go so far as completely reconfiguring their system to provide treatment or upgrade an existing treatment system.

Suppliers wanted justification to make these investments when their source water is regularly tested to demonstrate that it is safe without treatment.

Some community drinking water supply schemes have taken 10 years of fundraising to develop, with ongoing grants/funding required to keep up with existing maintenance demands.

One community scheme supplier discussed needing to raise an additional \$100,000 for the four years it had been operating to make improvements. If further changes are required, suppliers will need both incentives and ongoing assistance to ensure community schemes that provide lifelines to their people continue to provide access.

Impacts of the Draft Rules and Acceptable Solutions on Environmental Well-being

The key impact of the draft Rules and Acceptable Solutions on environmental well-being broadly relate to:

- Challenging nature’s fresh, untreated water
- Environmental constraints unaccounted for
- Flexibility for activities in existing environments.

Challenging Nature's Fresh, Untreated Water

Insight: People were concerned about the effects the draft Rules and Solutions would have on their water quality.

People were often extremely proud of their ‘fresh, clean and safe’ water that came straight from the ground and were concerned about the effects that the draft Rules and Acceptable Solutions would have on interfering with the quality of their water, such as needing to add chlorine to their supply. Discussions were held on the increased risk to public health if chlorine is used without appropriate competencies and could even make the supply dangerous.



To some, it seemed like a counter-intuitive step that devalued what the environment offered. Interviewees explained:

“A resident here is a descendant of this land and he has lived here all his life. He credits his health and longevity to the [local] water for its fresh, pure, untreated qualities.”

“We have some of the best water in the world. Straight from the ground. If it is already fresh water coming from the ground and has been tested, then why would we need to add treatment?”

Environmental Constraints Not Considered

Insight: Some Rules and Acceptable Solutions would not practically work for the environment they would applied to.

Environmental constraints meant that the draft Rules and Acceptable Solutions may not be feasible in certain situations.

For example, the size, shape or physical boundaries of properties would make it difficult for some suppliers to comply with the requirements to have an effluent disposal field at the suggested 50 m distance from the source water. If a property does not have 50 m of space within the boundary to move it. On rugged land, it may not be feasible to add fencing around every spring, and many would be physically difficult for a water supplier to access.

Other issues related to the environmental composition of the particular area or source water that the standards have not accounted for such as naturally hard water and limestone terrain which would have impacts on UV disinfection systems and costly maintenance requirements. In these cases, the draft Acceptable Solutions could not be used.

There are an estimated 900 water supplies in limestone country in Hawke’s Bay, 700 of which are in Hastings District. If the Acceptable Solution is not amended, many may need to prepare Drinking Water Safety Plans and comply with the Rules. It may be far simpler to amend the Acceptable Solution to allow hard water to be treated.

Flexibility for activities in existing environments

Insight: The Rules and Acceptable Solutions need to be able to be practically applied and consider existing environments.

Environments are useful for a variety of activities, many of which are already set up in a particular way. For example, water supply networks that integrate troughs or irrigation on farms with farmhouse supplies. The Rules and Acceptable Solutions should not adversely compromise the existing activities that are undertaken in those environments.

In some cases, private drinking water suppliers were positive about making improvements to their water quality and safety, but they advised it should be in ways that reflected their situation and means, and incorporate the knowledge and technical expertise they have about their system and environment.

“Really good to have us come and do this exercise as I will go away now and put some measures around the potential identified risks in the system.”

Other practical examples from the research included:



“Asking farmers to put backflow prevention on rural properties, they are going to have big issues, as these devices reduce the pressure. What was a 20 mm feedline will become the equivalent of a 5 mm supply. So our stock are going to get no water”.

“On farms, watch out for green weeds in the troughs as it acts as a capillary attraction and can suck water up over the trough and vice versa i.e. contaminants into the water supply.”

Concluding Comment

In order for communities to feel meaningfully invested and work towards the shared goal of safe drinking water, it is important their concerns are listened to and addressed through the right scale of expectations on private drinking water suppliers and the appropriate level of support to achieve secure access to a good quality and safe drinking water supply.

If not addressed with a **Pragmatic Approach** as described in **Part 2** of our main submission, there is a real risk that the draft Rules and Acceptable Solutions will result in unintended consequences where private drinking water suppliers will be unwilling to disclose information by not registering their drinking water supplies, supplies are cut off, which will have significant impacts on the receiving communities, families and businesses that they service.





Appendix 2

Drinking Water Quality Assurance Rules and Acceptable Solutions Responses to Taumata Arowai's Consultation Questions

Sections

A – Drinking Water Acceptable Solution for Roof Water Supplies

B – Drinking Water Acceptable Solution for Rural Agricultural Supplies

C – Drinking Water Acceptable Solution for Spring and Bore Drinking Water supplies

D – Drinking Water Standards

E – Drinking Water Quality Assurance Rules

F - Drinking Water Network Performance Consultation

