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# Water Services (Self-supplied Buildings) Drinking Water Acceptable Solution 2025

This Drinking Water Acceptable Solution is made under section 50 of the Water Services Act 2021 by the Chief Executive of the Water Services Authority—Taumata Arowai acting under delegated authority after consultation in accordance with section 53 of that Act.

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#### 1 Title

This is the Water Services (Self-supplied Buildings) Drinking Water Acceptable Solution 2025.

#### 2 Commencement

This Drinking Water Acceptable Solution comes into force on 5 September 2025.

#### 3 Interpretation

In this Drinking Water Acceptable Solution, unless the context otherwise requires,— Act means the Water Services Act 2021

**base population** means the number of people that are normally supplied drinking water regardless of any seasonal or temporary increases

bore means a piped or encased hole constructed to access groundwater

**building** means a stand-alone structure where drinking water is provided. A building does not include a structure where only non-potable water is provided for other uses.

designated validation standard means one of the following:

- (a) NSF/ANSI 55 Class A:
- (b) USEPA Ultraviolet Disinfection Guidance Manual:
- (c) DVGW Technical Standard W294-1:2023-12:
- (d) ÖNORM M 5873-1: 2020 01 01:
- (e) DIN 19294-1:2020-08

**determinand** means a substance or characteristic that is determined or estimated in drinking water

**IANZ** means International Accreditation New Zealand, a trading entity of the Accreditation Council continued under the Standards and Accreditation Act 2015

MAV means the maximum acceptable value of a determinand as set out in the <u>Water Services</u> (Drinking Water Standards for New Zealand) Regulations 2022

roof water means the rainwater collected from the roof of a building or structure

**self-supplied building drinking water supply** has the meaning set out in clause 4 of this Drinking Water Acceptable Solution

**spring** means a location where groundwater naturally emerges from the ground surface

**surface water** means a lake, river, stream or similar body of water that is located on top of land

**treatment system** means the combined system of treatment devices

UV means ultraviolet light

**UV transmittance** means the measurement of the amount of UV light that can pass through water usually measured as a percentage

#### 4 Meaning of self-supplied building drinking water supply

- (1) In this Drinking Water Acceptable Solution, **self-supplied building drinking water supply** means a drinking water supply that provides drinking water to up to 10 buildings on one site within the boundaries of one property, or within the boundaries of two or more adjoining properties with common ownership arrangements.
- (2) A self-supplied building drinking water supply must serve no more than 500 people (additional populations limits for multiple buildings apply).

#### 5 Application

- (1) This Drinking Water Acceptable Solution may be used only by drinking water suppliers who own or operate self-supplied building drinking water supplies.
- (2) Bore, spring, roof or surface water may be used as source water for the drinking water supply.
- (3) The source water may be on the drinking water supplier's or another person's property.
- (4) A self-supplied building drinking water supply may be supplied in whole or in part by another drinking water supply (for example, a registered water carrier or a networked supply).

# 6 Compliance with the Water Services Act 2021

- (1) Drinking water suppliers who ensure that a self-supplied building drinking water supply meets all the applicable requirements in Schedule 1 are deemed to comply with the following sections of the Act:
  - (a) section 24 duty to take all reasonable steps to supply aesthetically acceptable drinking water:
  - (b) section 30 owner must have a drinking water safety plan:
  - (c) section 37(1) drinking water suppliers to keep records:
  - (d) section 43 source water risk management plans:
  - (e) section 49(3) duty to comply with all applicable compliance rules.
- (2) For the avoidance of doubt, drinking water suppliers who comply with the requirements in Schedule 1 are not required to prepare a drinking water safety plan (including a source water risk management plan) or demonstrate compliance with compliance rules (for example, the *Drinking Water Quality Assurance Rules*).

#### 7 Transition

- (1) Drinking water suppliers that were using the *Drinking Water Acceptable Solution for Spring and Bore Water Supplies 2022* or the *Drinking Water Acceptable Solution for Roof Water Supplies 2022* at the date of commencement of this Drinking Water Acceptable Solution—
  - (a) are deemed to be compliant with this Drinking Water Acceptable Solution for 1 year from that date if the previous requirements continue to be met; or
  - (b) may transition to this Drinking Water Acceptable Solution at any time following commencement.

# **Schedule 1**

# **Requirements for Self-supplied Buildings**

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# **Treatment**

#### SSB.1 Treatment must be used

Treatment that meets the requirements of SSB.2 to SSB.4 must be installed and maintained for any buildings where the water supplied is used as drinking water.

#### SSB.2 Treatment must meet population and building limits

- (a) A treatment system must either—
  - (i) provide drinking water to a single building where the base population does not exceed 500 people; or
  - (ii) provide drinking water to no more than three buildings on one property, or on adjoining properties with common ownership arrangements, where the base population does not exceed 100 people; or
  - (iii) provide drinking water to no more than 10 buildings on one property, or on adjoining properties with common ownership arrangements, where the base population does not exceed 500 people where the requirements of SSB.14 are met.
- (b) The population supplied by a treatment system may exceed its base population limit if—
  - (i) the exceedance is for a total of no more than 60 days in any 12-month period; and
  - (ii) the treatment system has the capacity to effectively treat drinking water for these periods.

#### SSB.3 Treatment must be effective

The following requirements must be met to ensure that a treatment system is effective for treating drinking water:

- (a) a treatment system must consist of at a least a cartridge filtration system and a UV disinfection system:
- (b) each component of a treatment system must be installed—
  - (i) to meet the peak instantaneous demand for treated drinking water; and
  - (ii) in accordance with the manufacturer's instructions and requirements:
- (c) a treatment system must include at least one cartridge filter, installed before the UV disinfection system and with the final or only cartridge having a 5 micron or less nominal pore size:
- (d) every device in the treatment system must be operated and maintained in accordance with the manufacturer's instructions:
- (e) the UV disinfection system must deliver at least 40 mJ/cm<sup>2</sup> reduction equivalent dose of UV light:
- (f) water flowing through the UV disinfection system must be restricted or monitored so that the flow rate does not exceed the flow rate specified by the manufacturer for 40 mJ/cm<sup>2</sup> reduction equivalent dose of UV light:
- (g) lamp usage in the UV disinfection system must not exceed manufacturer's recommendations:

- (h) written evidence must be available (for example, from the manufacturer's website, or the instruction manual) confirming—
  - (i) the UV disinfection system delivers at least 40 mJ/cm<sup>2</sup> reduction equivalent dose of UV light; and
  - (ii) the flow rate specified by the manufacturer for 40 mJ/cm<sup>2</sup> reduction equivalent dose of UV light.

## SSB.4 UV disinfection systems must be validated for designated buildings

A UV disinfection system must be validated to and operate within the specifications of a designated validation standard for any buildings—

- (a) with a base population that exceeds 25 people; or
- (b) with a base population of any size, if—
  - (i) the building has a community purpose (for example, a school, marae, sports club, or community hall); or
  - (ii) the building has drinking water available to the public (for example a cafe, hotel, or camping ground); but
- (c) notwithstanding (a) and (b), validation is not required where a UV disinfection system was installed before 17 October 2022 and written evidence is available (for example, the manufacturer's website, or the instruction manual) that the unit delivers at least 40 mJ/cm<sup>2</sup> reduction equivalent dose of UV light.

# General water quality

#### SSB.5 Water must be suitable for treatment

All water intended to be used as drinking water must meet the following requirements to be suitable for a cartridge filtration and UV disinfection treatment system:

- (a) turbidity must be low enough to ensure cartridge filters will last for at least one month before replacement of cartridges is required:
- (b) UV transmittance must be high enough for the UV disinfection system to achieve at least 40 mJ/cm<sup>2</sup> reduction equivalent dose of UV light:
- (c) iron must be low enough to ensure the UV disinfection system sleeve is not fouled with iron deposits within one year before cleaning is required:
- (d) manganese must be low enough to ensure the UV disinfection system sleeve is not fouled with manganese deposits within one year before cleaning is required:
- (e) chemical determinands that are required to be monitored under SSB.7 and SSB.10 must not exceed their respective MAV in the drinking water standards:
- (f) where surface water is used, cyanobacteria/cyanotoxin risk must be either assessed as low or managed to mitigate the risk prior to water entering the treatment system.

#### SSB.6 Additional treatment may be used

- (a) Additional treatment may be used to improve water quality to meet the requirements of SSB.5 prior to cartridge filtration and UV treatment.
- (b) Chlorine may be added to a drinking water supply to control bacterial and viral pathogens and to reduce the risk of growth of biofilms however, it is not required to meet this Drinking Water Acceptable Solution.

# Source-specific water quality

# SSB.7 Bore, spring and surface water must be monitored

- (a) Where the source water is or includes bore, spring or surface water, the following determinands must be monitored in untreated water before this Drinking Water Acceptable Solution is used and then—
  - (i) at least every three months for the following microbiological determinands:
    - a. E. coli:
    - b. total coliforms; and
  - (ii) at least every three months for the following physical determinands:
    - a. turbidity:
    - b. UV transmittance; and
  - (iii) at least annually for the following chemical determinands:
    - a. iron:
    - b. manganese:
    - c. nitrate:
    - d. arsenic:
    - e. boron:
    - f. hardness:
    - g. any other chemical determinands that are identified as presenting a risk to the supply.
- (b) Microbiological and chemical samples collected for SSB.7(a) must be—
  - (i) collected according to any instructions and specifications provided by the laboratory; and
  - (ii) analysed by a laboratory accredited by IANZ for the type of analysis being undertaken.

# SSB.8 Cyanobacteria/cyanotoxin risks must be identified and managed for surface water

Where the source water is or includes surface water, the following requirements must be met:

- (a) monitoring or visual inspections of the source water and area around and upstream of any surface water intake must be undertaken each month between October and May (inclusive) for the presence of benthic cyanobacteria mats and planktonic cyanobacterial growth:
- (b) if there is evidence of cyanobacterial growth steps must be taken to assess the cyanotoxin risk:
- (c) if there is a risk of supplying water with cyanotoxins that exceed a MAV, a response plan must be developed and followed under SSB.15:
- (d) taste or odour concerns, which have the potential to relate to cyanobacteria, must be—
  - (i) recorded; and
  - (ii) investigated to determine the cause.

## SSB.9 Springs and bores must be protected

Where the source water is or includes a spring or a bore, the following requirements must be met:

- (a) springs and bores must be protected by headworks which minimise the risk of contamination from nearby surface water:
- (b) farm animals must be excluded from an area extending at least five metres in all directions from the headworks of a bore, spring or spring-fed pond:
- (c) springs and bores must not be affected by contamination from any of the following:
  - (i) a sewage disposal field or effluent discharge (for example, a septic tank or other wastewater treatment system):
  - (ii) an underground storage tank (such as at a petrol station):
  - (iii) a waste pond:
  - (iv) a landfill:
  - (v) an offal pit:
  - (vi) areas where pesticides or animal effluent is applied to land:
  - (vii) aquifers contaminated with, or at risk of contamination with, sewage from exfiltration and/or pump station overflows:
  - (viii) contaminated sites:
- (d) springs and bores must not provide geothermal water.

#### SSB.10 Roof water must be monitored

- (a) Where the source water is or includes roof water, the following determinands must be monitored in untreated roof water before this Drinking Water Acceptable Solution is used and then—
  - (i) at least every three months for the following microbiological determinands:
    - a. E. coli:
    - b. total coliforms; and

- (ii) at least every three years for the following chemical determinands:
  - a. cadmium:
  - b. copper:
  - c. lead.
- (b) Microbiological and chemical samples collected for SSB.10(a) must be—
  - (i) collected according to any instructions and specifications provided by the laboratory; and
  - (ii) analysed by a laboratory accredited by IANZ for the type of analysis being undertaken.

#### SSB.11 Risks to roof water quality must be minimised

Where the source water is or includes roof water, the following requirements must be met:

- (a) as far as practicable, roof surfaces used for the collection of drinking water must be kept free from decaying debris, leaves, branches, bird nests and faeces from animals or birds:
- (b) the roof supply must be able to be isolated from the water storage and treatment system for cleaning and maintenance.

### Risk management

#### SSB.12 Risks associated with storage tanks must be minimised

- (a) Treated water storage tanks must be inspected at least every three months to ensure—
  - (i) tanks are secured against the accidental ingress of rainwater and surface water; and
  - (ii) inlets, lids, overflows and any other small gaps in tanks are secure from contamination by vermin, birds, animals, faecal material, or other material.
- (b) Untreated water storage tanks must be inspected at least annually to ensure they are secured from contamination by vermin, birds, animals, faecal material, or other material.
- (c) Untreated water from any source additional to the primary source must be first delivered into an untreated water storage tank so that all water to be used for drinking passes through the treatment system.

#### SSB.13 Treated drinking water must be monitored

- (a) The following determinands must be monitored in treated drinking water:
  - (i) *E. coli*:
  - (ii) total coliforms.
- (b) Samples collected for SSB.13(a) must be—

- (i) collected from within the building where the treatment system is located, or if more than one building is supplied then from a tap in a building that is the greatest distance from the building where the treatment system is located; and
- (ii) collected according to any instructions and specifications provided by the laboratory; and
- (iii) analysed by a laboratory accredited by IANZ for the type of analysis being undertaken.
- (c) Samples collected for SSB.13(a) must be collected at the following intervals:
  - (i) every three months if the population is 100 or less:
  - (ii) monthly if the population is 101 or more.
- (d) Where the base population is 100 or less, and the population temporarily increases above 100 but below 500, additional samples of treated water must be collected and tested for microbiological determinands—
  - (i) in the week before the population increases if the increase is planned; and
  - (ii) weekly until the population reduces below 100.
- (e) Where the population temporarily increases above 500, additional samples for microbiological determinands must be collected—
  - (i) in the week before the population increases if the increase is planned; and
  - (ii) twice weekly until the population reduces below 500.

# SSB.14 Risks related to treated water pipes must be minimised for supplies serving between 3 and 10 buildings or more than 100 people

- (a) SSB.14(b) applies if—
  - (i) drinking water is provided to more than three buildings from the same treatment system; or
  - (ii) the drinking water supply serves more than 100 people and is provided to more than one building from the same treatment system.
- (b) Pipes that carry treated drinking water to buildings must not be laid close to or through any of the following:
  - (i) a sewage disposal field or effluent discharge (for example, a septic tank or other wastewater treatment system):
  - (ii) an underground storage tank (such as at a petrol station):
  - (iii) a waste pond:
  - (iv) a landfill:
  - (v) an offal pit:
  - (vi) areas where pesticides or animal effluent is applied to land:
  - (vii) contaminated sites.

# Emergency management, record-keeping and capability

#### SSB.15 Events and emergencies must be managed appropriately

- (a) Events and emergencies that could put the safety of drinking water or the supply of a sufficient quantity of drinking water at risk must be identified and documented.
- (b) A response plan must be developed and followed for each event or emergency identified under SSB.15(a).

# SSB.16 Records of the drinking water supply must be kept

The following records must be kept and maintained for at least three years:

- (a) records of installation and maintenance of treatment devices:
- (b) records of inspection and maintenance of supply components including storage tanks, pipes and pumps:
- (c) records of all monitoring:
- (d) records of response plans and responses to events and emergencies.

#### SSB.17 People working on the drinking water supply must be competent

People who install, maintain or operate any aspect of the drinking water supply must be suitably qualified, trained or experienced to undertake the relevant task.

Made at Wellington on 3 September 2025.

Allan Prangnell
Chief Executive
Water Services Authority—Taumata Arowai

#### **Explanatory note**

This note is not part of the Drinking Water Acceptable Solution but is intended to indicate its general effect.

This drinking water acceptable solution, which comes into force on 5 September 2025, provides a prescribed set of requirements that self-supplied building drinking water suppliers can use to establish compliance with particular duties in the Act.

Self-supplied building is defined as the supply of drinking water to up to 10 buildings on one site within the boundaries of one property or multiple properties with common ownership arrangements that serves no more than 500 people.

Additional population limits are 500 for a single building, 100 for up to three buildings or 500 for up to 10 buildings where additional risk management requirements are met.

A treatment system consisting of cartridge filtration and UV disinfection must be installed. Validated UV systems are required for buildings with over 25 people or buildings that have a community purpose or are open to the public.

Water must be of a quality suitable for the treatment system, key determinands must be monitored, spring, bore and roof sources must be protected, risks to tanks and pipes must be managed, emergencies must be managed, records must be kept and people working on the supply must be competent.

A drinking water supplier who meets all the applicable requirements is not required to comply with compliance rules made under the Act and prepare a drinking water safety plan.

The *Drinking Water Acceptable Solution for Spring and Bore Water Supplies 2022* and the *Drinking Water Acceptable Solution for Roof Water Supplies 2022* have been replaced with separate acceptable solutions for small to medium networks and self-supplied buildings.

This is secondary legislation issued under the authority of the <u>Legislation Act 2019</u> .			
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