Managing risks in private drinking water supplies at schools

EHPA Water Workshop

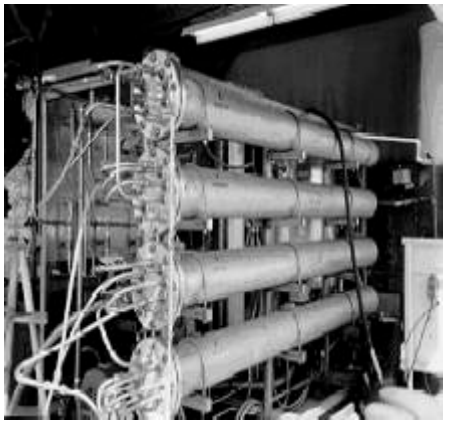
12 August 2016

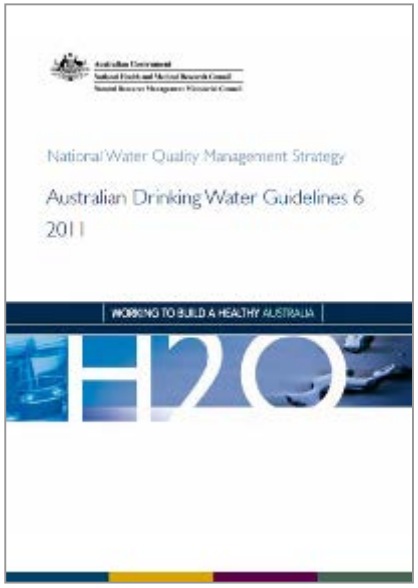
Houa Tia

Water Program

Department of Health & Human Services

Water Program





Regulatory framework – Private drinking water supplies for human consumption

- Public Health & Wellbeing Act 2008, Public Health & Wellbeing Regulations 2009
- Food Act 1984
- Residential Tenancies (Caravan Parks and Moveable Dwellings Registration and Standards) Regulations 2010
- Children's Services Act 1996

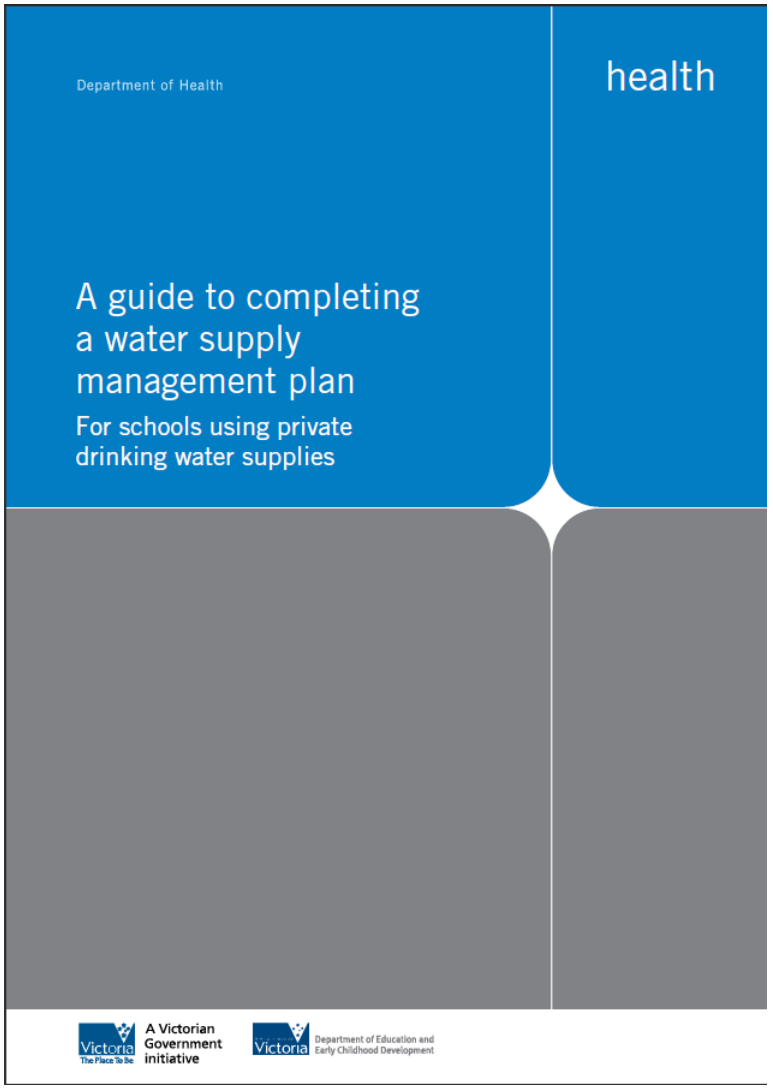
Key messages

- Rainwater can be a good water source but has associated risks
- The Department of Health & Human Services provides guidance to help manage the risks
- Local Government Environmental Health Officer’s (EHO’s) play a key role in supporting facilities to help manage the risks

Development of a guide specific for schools

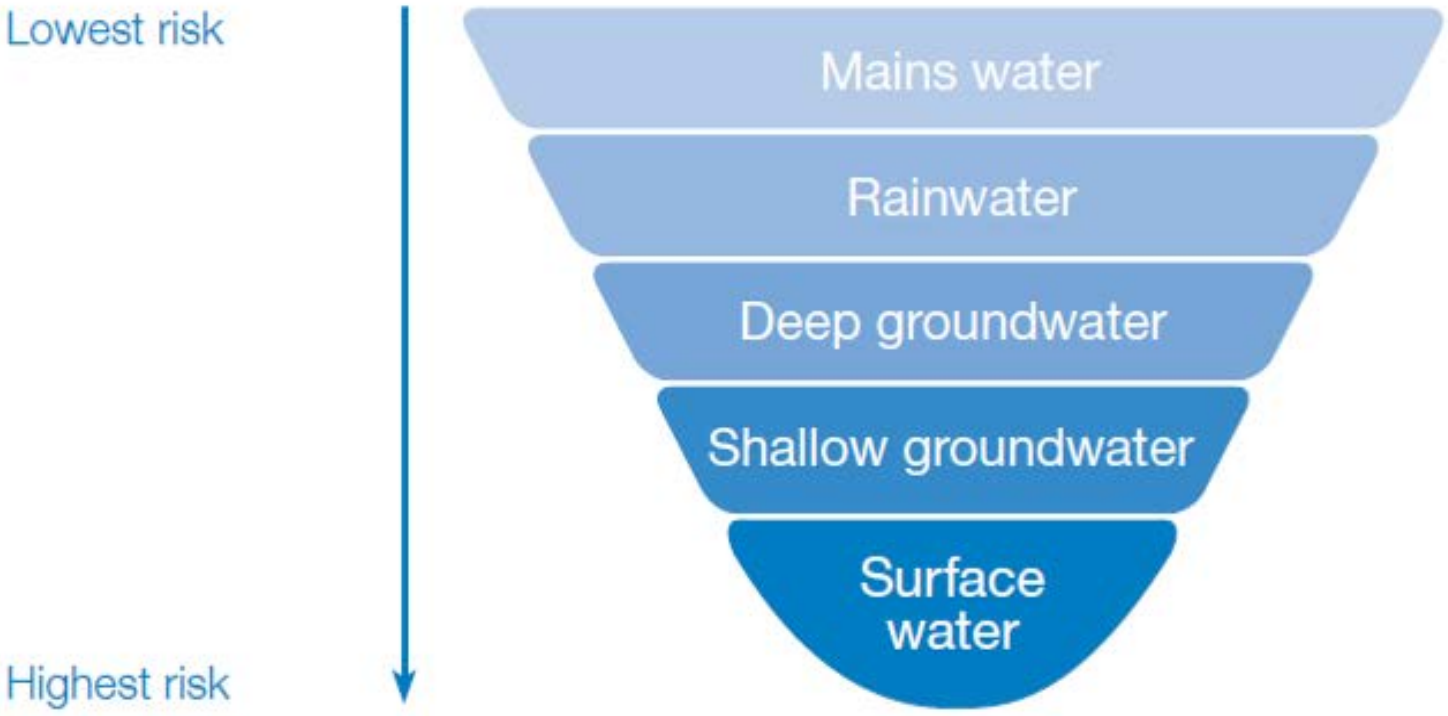
Aim of the guidance:

- Straight-forward and easy to follow
- Be easy to implement
- Doesn't require high level of training or resources
- Can be implemented across a range of different settings



Water Source – Risk hierarchy

Figure 1: The risk hierarchy for water sources used in private drinking water supplies



Steps to completing a Water Supply Management Plan

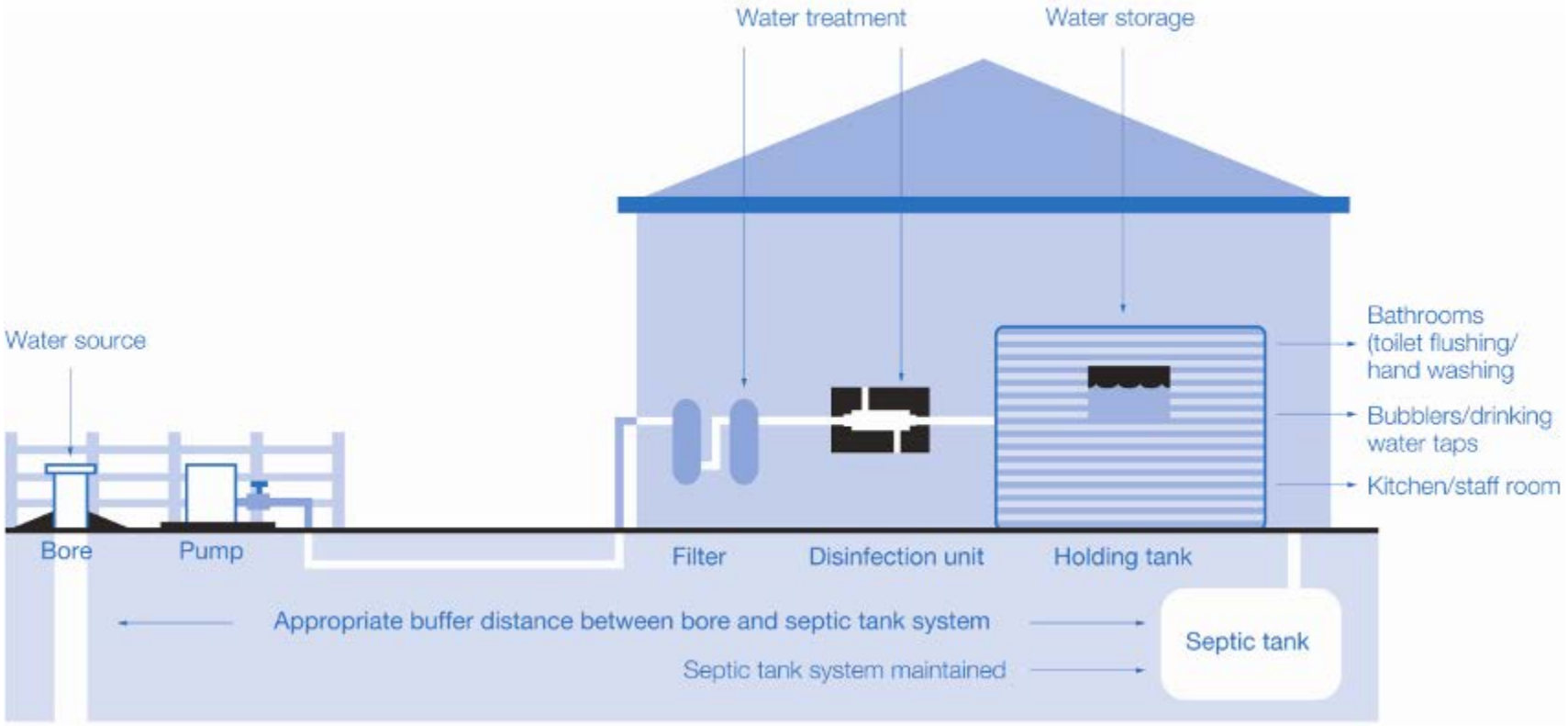
- Step 1: Nominate a person to be responsible for the school's water supply system
- Step 2: Describe in detail the water supply system
- Step 3: Identify potential hazards and ways to manage risks to the water supply system
- Step 4: Document operational, monitoring & maintenance procedures for the water supply system
- Step 5: Have an emergency management plan in place

Step 1: Nominate a person to be responsible for the school's water supply system

- School's details
  1) Name of school
  2) Principal
  3) School's contact details
  4) Principal's contact details (including after-hours)
- Name of person responsible for system
  - define role and responsibilities

Step 2: Detailed description of the water supply system

Description and map of the Water Supply System



Step 2: Detailed description of the water supply system

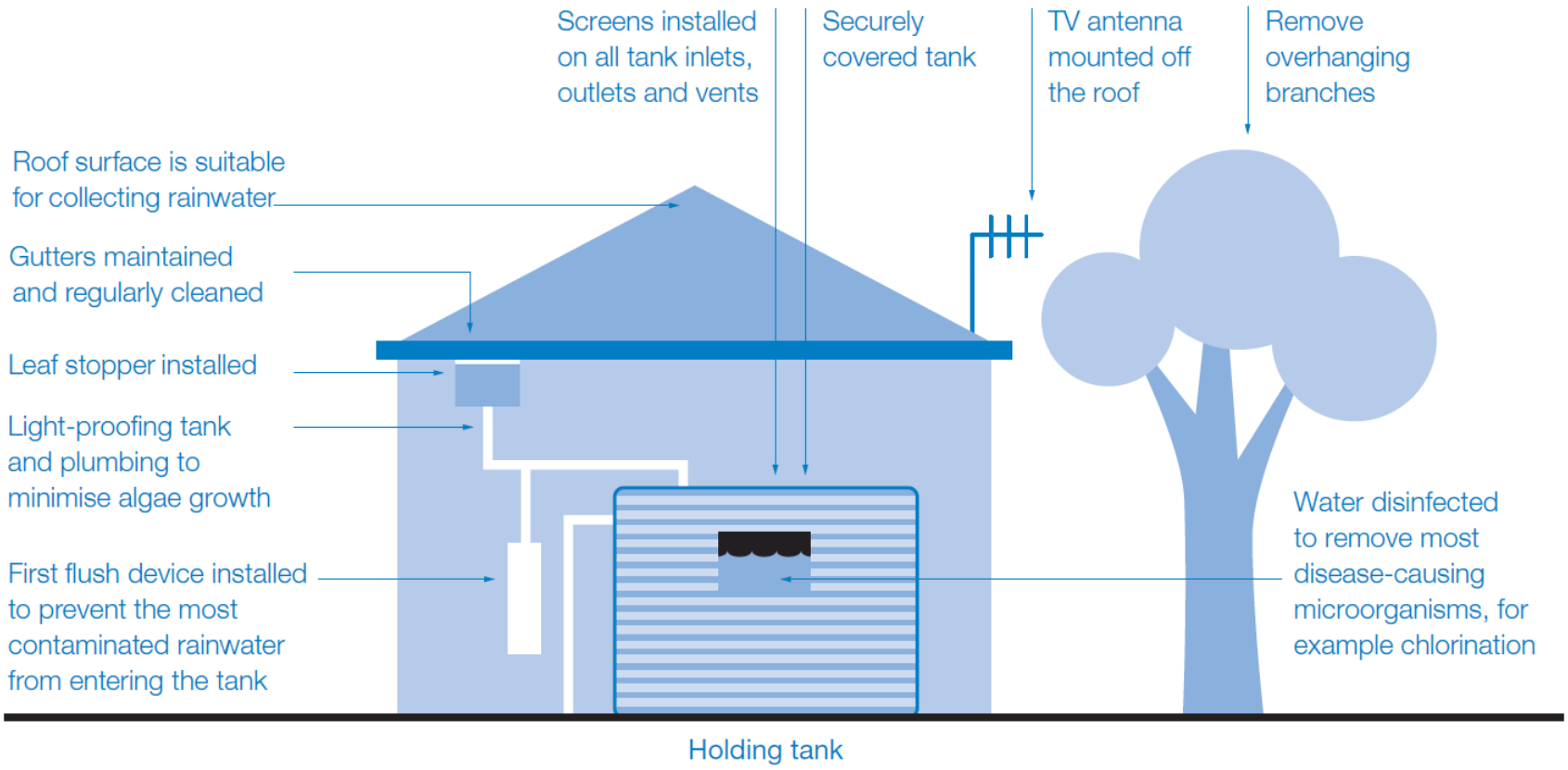
Water source(s)	☐ Rainwater ☐ Groundwater ☐ Dam ☐ Creek/stream
Uses of the supply	☐ Drinking ☐ Food preparation (including cleaning food preparation surfaces) ☐ Hand washing ☐ Bathing ☐ Other, please explain _____
Treatment methods	☐ Filtration ☐ Chlorine ☐ UV light ☐ Other, please specify _____

Map of system

Use this flow diagram to map your system. Include your water source, storage tanks and treatment systems.

Example

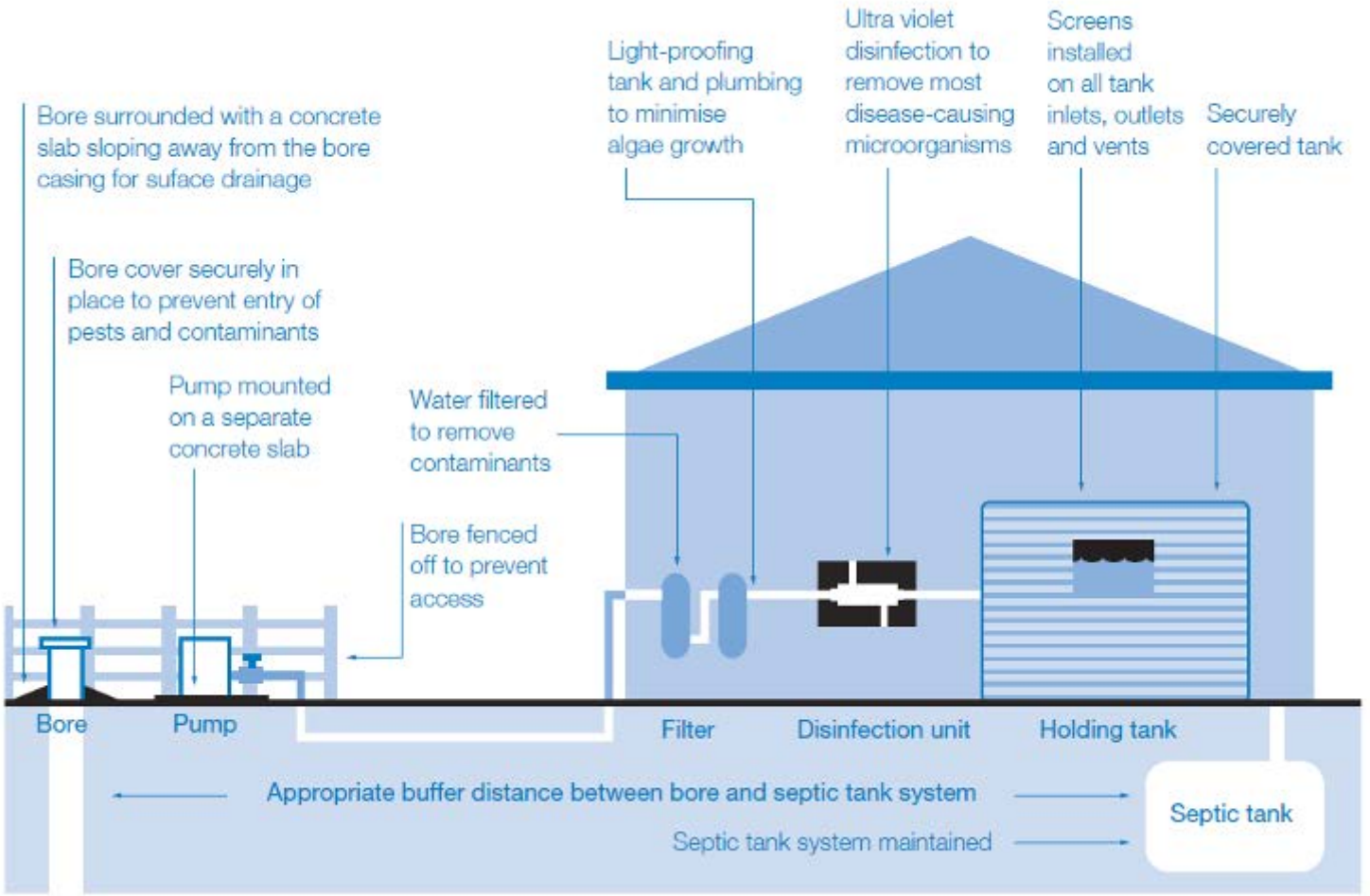
Step 3: Identify potential hazards and ways to manage risks to the water supply system



Step 3: Identify potential hazards and ways to manage risks to the water supply system

Potential hazards to a groundwater supply system

- sewage
- animal faeces
- industrial and agricultural run-off (such as pesticides and fertilisers)
- seepage from rubbish
- polluted stormwater
- chemical spills
- naturally occurring chemicals (such as arsenic)
- contaminated surface waters.



Step 4: Document operational, monitoring & maintenance procedures for the water supply system

Water source: rainwater	Clean spouting/gutters (three-monthly and after storms)
	Check and trim overhanging branches (annually)
	Inspect and repair downpipes (annually)
	Check condition of roof (annually)
Tank	Check inlet and outlet screens (three-monthly)
	Check access covers (monthly)
	Clear strainer of debris (three-monthly and after storms)
	Check for presence of mosquito larvae in tank water (monthly)
	Check structural condition (annually)
	Check sludge level and internal cleanliness (every two years or as required)
Distribution system	Check plumbing/piping is fully operational and well maintained (annually)
Treatment system	Replace filters (as per manufacturer's advice or earlier if a decrease in water flow is noticed)
	Test chlorine level is at or above 0.5 mg/L (at least weekly or after heavy rains)
	Test pH level is 6.5–8.5 (weekly)
	Check UV light is operating and free from scum (weekly)
	Replace UV lamps every 12 months (or as per manufacturer's instructions)
Water quality testing	*E. coli* test* (initially to identify risk, when the system is new or altered, or after a significant event such as heavy rainfall)
	Chemical test – (initially to identify risk, when the system is new or altered, or after a significant event)

Step 5: Have an emergency management plan in place

- Who to contact?
- What to do?
- How to organise an alternative drinking water supply?
- Communication plan

WSMP Checklist

Step	Action	Checklist
1. Record school's details and details of nominated person	A nominated person(s) is assigned to be responsible for the school's water supply system.	☐
	The school's details and details of the nominated person(s) are recorded and in a readily accessible location.	☐
2. Provide a detailed description of the water supply system	A detailed description and map of the water source and water supply system have been documented.	☐
3. Identify hazards and ways to manage risks to the water supply	A thorough risk assessment identifying hazards to the water supply system has been completed. Refer to Appendices 3–5 for potential hazards.	☐
	The hazards and identified risks are appropriately addressed and managed.	☐
4. Document operation, monitoring and maintenance procedures for the water supply system	The standard operating procedures for the water supply system are documented.	☐
	All regular monitoring activities are identified and documented.	☐
	All regular maintenance activities are identified and documented. This includes methods for water supply sample testing by NATA accredited laboratories.	☐
5. Have an emergency management plan in place	An emergency management plan has been developed. This includes contingency plans and who to notify.	☐
	Where contamination of the water supply is suspected, access and delivery of water is suspended.	☐
	Where the water supply system is suspected or confirmed to be contaminated, an alternative drinking water supply is made available.	☐
	Corrective action is taken to ensure the water supply is safe for drinking. This includes appropriate treatment and disposal of contaminated water.	☐

More risk management strategies

- A licensed plumber should install the tank, fixtures, pipes and pumps to ensure that rainwater remains separate from the mains drinking water supply
- Above ground tanks preferential
- Rainwater tank standard AS/NZS 4020 – Testing of Products for Use in Contact with Drinking Water
- Water supply management

Everyone has a role to play – Facility Managers and professionals including EHOs

Challenges

Guidance tends to be ignored

•Stress the importance of appropriately managing private drinking water supplies

Poor understanding of risk

•Water related outbreaks occur and they are preventable

Schools generally understaffed, low on budget

•The provision of safe drinking water is essential

What can we do to help?

•DHHS, DET, & Local Councils and EHOs

Guidance – private water sources

- Rainwater tanks
- Rainwater for non-drinking applications
- Private drinking water supplies
- General guidance aimed at food service providers
- Recommendation for water supply management plan

Mains water should be used for drinking

Thank you!

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