Water Supply

Quality Assurance Program

This program has been prepared by:

John Smith

Manager

This program is for:

Café

100 Main Street, Anywhere, NSW

(Deep bore no treatment)

Date: April 2014

Contents

Background 3
Water Supply Quality Assurance Program 3
What to do with the QAP 3
1 Basic Information 4
1.1 Private water supplier's details 4
1.2 Water supply system monitoring and maintenance personnel details 4
1.3 Description of the water supply system 5
2 Diagram of the Water Supply System 6
3 Risk Assessment of the Water Supply System 7
3.1 Risk Assessment 8
4 Management Actions and Record Keeping 10
4.1 Planned water supply system inspection and maintenance program 10
4.2 Water supply system inspection and maintenance records 11
4.3 Equipment details 12
4.4 Sign posting 12
4.5 Water quality monitoring program 12
4.6 Water quality monitoring results 13
4.7 Records of water purchased from a water carter 13
4.8 Incident records 13
5 Contingency and Emergency Planning 14
5.1 Contingency plan 14
5.2 Emergency contacts 15

Background

The *Public Health Act 2010* and Public Health Regulation 2012 require that all suppliers of drinking water establish and adhere to a Quality Assurance Program (QAP). This QAP was developed by customising the template provided by *NSW Health Private Water Supply Guidelines* to ensure its relevance to the water supply system for the Café.

This QAP addresses the Framework for Management of Drinking Water Quality set out in the *Australian Drinking Water Guidelines* (ADWG 2011), in a way that is appropriate to the water supply to the Café.

The *NSW Health Private Water Supply Guidelines* were also used to develop this QAP

Water Supply Quality Assurance Program

A water supply system includes everything from the collection of the source water through to the point of use. When developing this QAP for the Café water supply system the following questions were addressed:

- What problems could occur between the water source and the point of use?
- How can they be prevented or fixed?
- How do you know that the problem has been prevented or fixed?

The answers to these questions helped to determine how to:

- assess and protect the quality of the source water
- make sure treatment processes are appropriate, maintained and working properly
- regularly test the water quality
- make the water supply safe if contamination has occurred
- make sure that water users are warned and/or provided with safe drinking water if the normal supply is found to be unsatisfactory or the quality cannot be guaranteed.

Keeping the water supply system safe involves:

- identifying who is responsible for the system and who will respond to issues
- understanding hazards to your water sources
- making sure the water is stored and distributed safely
- treating the water to remove or control any contamination
- monitoring the quality of the water and the integrity of the water supply system
- planning on how to respond to problems in the water supply system.

This QAP reflects the type of water supply system managed by the Café, especially the water source and its end uses. While NSW Health recommends that water supplies be monitored regularly, operators may choose not to monitor water quality.

What to do with the QAP

A copy of this completed QAP has been provided to the Public Health Unit for review.

This QAP should be a living document that is reviewed regularly. Any changes that occur to the water supply system or any new hazards that are identified from observations, equipment checks, incidents or monitoring should be added to the relevant section of the program.

This QAP should be kept in a central place that is easily accessible to staff and others who may need to view it, such as officers of NSW Food Authority, your local Council and NSW Health.

The activities in this QAP are undertaken by this business to ensure safe drinking water and to protect public health.

1 Basic Information

1.1 Private water supplier's details

Property/business name	Café
Owner/occupier name	John Smith
Owner /occupier contact details	John Smith Phone: (02) 6230 0000 Email: john.smith@cafe.com Address: 100 Main Street, NSW, 0000
Business after-hours / emergency contact	John Smith Mobile: 0401 234 567 Email: john.smith@cafe.com

1.2 Water supply system monitoring and maintenance personnel details

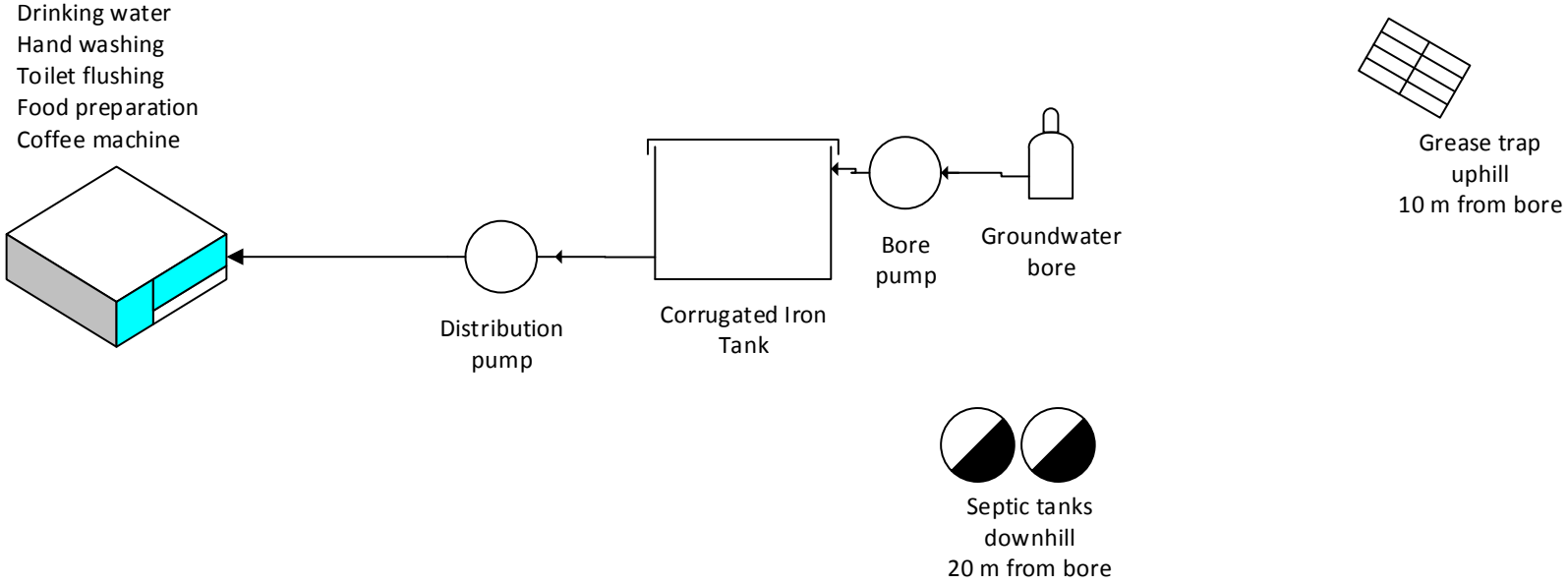
	Roles and responsibilities
Name and phone number of main person responsible	John Smith Phone: (02) 6230 0000 Email: john.smith@cafe.com
Name and phone number of any other people responsible	Kate Jones Mobile: 0400 000 000 Email: kate.jones@cafe.com

1.3 Description of the water supply system

Tick	Component	Description
Water sources		
✓	Groundwater (bore)	1 x groundwater bore through open rock; PVC casing/sleeve above extends above ground; Bore profile: soil to 1 m, clay to 2 m, sandstone water supply to final depth (60 – 70 m)
✓	Carted water	Unlikely but available as a backup if required
Treatment		
✓	Other – strainer	At entrance to corrugated iron storage tank
Distribution		
✓	Storage/header tank	1 x corrugated iron storage tank
✓	Pipes	Black poly pipes PVC pipes
✓	Pumps	1 x Brand A bore pump 1 x Brand B distribution pump – pumping on demand as determined by water pressure
Uses		
✓	Drinking	Bore water used for drinking in café
✓	Food preparation (including washing of produce and cleaning of utensils and equipment) **Is the Food Business notified to the NSW Food Authority?**	Bore water used for food preparation, water supply to coffee machine, and for washing and cleaning of utensils and equipment. Yes
✓	Personal hygiene (showers, toilets etc.)	Bore water used for toilets and hand washing in café.
✓	Clothes washing	Bore water used for washing of tea towels and cleaning cloths in café.
✓	Other	Bore water used for wiping tables and general cleaning in café.

2 Diagram of the Water Supply System

- **Café**
- Uses of bore water:
- Drinking water
- Hand washing
- Toilet flushing
- Food preparation
- Coffee machine



3 Risk Assessment of the Water Supply System

Step 1: Identify particular hazards in your water supply in the risk assessment template. The table in Appendix B gives some examples of some hazards and is provided to assist you to complete the "Hazard" column of the Risk Assessment.

Step 2: Assign risk rankings. Once you have listed all possible hazards, assign a risk ranking to each hazard as low, medium or high in the risk assessment template. Consider the likelihood of the hazard occurring and, if it does, the severity of the consequence. The table in Appendix C may assist in ranking risks.

Step 3: Identify controls. Decide whether the hazards identified in your system have controls in place and describe these controls in the risk assessment template. Controls are the ways that risks will be managed, for example excluding animals from dams used for human drinking water, regular inspection and maintenance programs or water treatment. The table in Appendix B gives some more examples of possible controls for various hazards.

Step 4: Monitoring of controls is important to ensure they are working effectively. Describe in the risk assessment template how, when and where monitoring will occur, who is responsible, how and where records will be kept and by whom. Consult the Private Water Supply Guidelines for information on monitoring.

Step 5: If any hazards are not controlled, identify what could be done to improve safety and reduce the risk of those hazards. List any shortcomings in your water supply system and its management and identify what improvements should be made. Document these improvements in your risk assessment template.

Step 6: Prioritise actions that need to be taken to protect the water supply and give them a priority number or time frame in the risk assessment template.

3.1 Risk Assessment

Step 1 Hazard	Step 2 Risk Rank	Step 3		Step 4 How is this control monitored?	Step 5 If not controlled what could be done to improve safety?	Step 6 Timeframe for action
		Hazard Controlled?	What is the control, if any?			
Build-up of sludge in tank, dirt in inlet strainers and/or insect screens	*Medium*	*Yes*	*Screen on tank inlet*	*Cleaning every 2 weeks*		
Plumbing materials (e.g. piping)	*Unknown*	*Unknown*	*Unsure if materials comply with standards (e.g. AS/NZ 4020:2005, WaterMark, AS2070, AS/NZS4766 or ATS5200.026)*		*Undertake yearly chemical testing.* *Ensure all future water supply equipment complies with appropriate standards*	*Annually* *Immediate*
Mosquitoes breeding in the storage tank	*Medium*	*Yes*	*Screens on tank inlet and overflow*	*Checked fortnightly when screens are cleaned*		
Low pH or soft water corroding plumbing fittings when the taps haven't been used so water sits in pipes	*Low*	*Yes*	*Run taps if water has not run through the pipe for several days*	*Visual inspection of water colour* *Good water turnover*	*Take a chemistry test to assess pH and hardness* *Consider introducing some hardness to the water e.g. concrete blocks in the storage tank or a filter full of marble chips.*	*Immediately*

Step 1 Hazard	Step 2 Risk Rank	Step 3		Step 4 How is this control monitored?	Step 5 If not controlled what could be done to improve safety?	Step 6 Timeframe for action
		Hazard Controlled?	What is the control, if any?			
Contamination from frogs, birds and other animals entering directly from the roof of the tank	*High*	*Yes*	*Tank integrity*	*3 monthly inspection*	*If contamination found tank could be chlorinated.*	*Immediately*
Groundwater contamination from septic tank system and grease trap or run off from surface *(Grease trap located 10 m from bore, septic tank system located 20 m from bore)*	*High*	*Yes*	*Routine maintenance of septic tank* *Deep sandstone aquifer* *PVC sleeve extending above ground*	*Monthly E. coli monitoring* *Inspections of bore head integrity*		
Chemicals in bore water	*Low*	*No*		*Yearly chemical monitoring*		

4 Management Actions and Record Keeping

Document all activities required to manage the water supply including inspections, maintenance, signage, monitoring, and incident management.

Keep records of:

- system inspections
- all results of microbial and chemical testing, and chlorine levels (where applicable)
- maintenance to the water system such as tank cleaning, filter change, chlorination
- incidents and corrective actions e.g. dead animal in tank, storms, treatment breakdown
- deliveries of carted water, including date and name of supplier
- the placement of warning signs.

4.1 Planned water supply system inspection and maintenance program

Planned inspection and maintenance program

Item inspected / maintained	Frequency or dates	Who by	Equipment or procedures
Strainer (mesh on corrugated iron tank) clear of debris	*Every 2 weeks*	*Contractor*	
Inspect well head is secure and free from water pooling	*Monthly or after heavy rains*	*Manager*	*Visual inspection*
Tank inspection	*3 monthly*	*Manager*	*Visual inspection*
Check presence of mosquito larvae in tank water	*3 monthly*	*Manager*	*Visual inspection of a scoop of water*
Structural condition of tank	*Annually*	*Contractor*	
System (pump, piping, bore casing) is fully operational and maintained	*Annually*	*Manager*	*Equipment manuals*
Level of sludge and internal tank cleanliness	*Every 2 years*	*Contractor*	

4.2 Water supply system inspection and maintenance records

Water supply system inspection and maintenance record (planned and additional)

Date	What was inspected	Notes	Actions to be taken	Person Responsible
	Strainer (mesh on corrugated iron tank) clear of debris			
	Inspect well head is secure and free from water pooling			
	Tank inspection			
	Check presence of mosquito larvae in tank water			
	Structural condition of tank			
	System (pump, piping, bore casing) is fully operational and maintained			
	Level of sludge and internal tank cleanliness			

4.3 Equipment details

Equipment records (procedures for operation and maintenance including history)

Part / Equipment	Manufacturer[1]	Supplier/Repairer Contact Details
Water pumps	*Brand A and Brand B pumps*	*Anywhere irrigation supplies* 0414 444 444
Laboratory	*Brand Laboratory*	*Laboratory services* 0414 444 444

Note 1: *Manufacturer's instructions are held by Manager*

4.4 Sign posting

Signs

Sign location	Sign wording	Permanent or Temporary	Inspection Date	Any action taken
Garden hose	*Do not drink*	*Permanent*		
At all taps	*Do not drink*	*Temporary in case of E. coli detection*		

4.5 Water quality monitoring program

Water quality monitoring

What is to be monitored	How often are tests to be taken (frequency or dates)	Location of tests	Who should perform the test	Equipment needed and procedures for performing the test
Water quality	*Daily*		*Manager*	*Taste & odour* *Visual inspection*
E. coli	*Monthly*		*Manager*	*See sampling procedure from laboratory*
Chemical	*Annually*		*Manager*	*See sampling procedure from laboratory*

4.6 Water quality monitoring results

Water testing results – visual inspection and taste

Date	Where test was taken from	Type of test taken	Observation	Any action taken	Person Responsible
		Water quality			
		E. coli			
		Chemical			

4.7 Records of water purchased from a water carter

Purchased water

Date	Name and details of Water Carter	Volume of water purchased

4.8 Incident records

Issue / Incident / Emergency Record (including customer complaints)

Date	Incident	Notes and corrective actions	Person(s) Responsible

5 Contingency and Emergency Planning

Document what you plan to do:

- if there was a problem with an important part of the water supply system
- to ensure all people responsible for the water supply system have the knowledge and skills to run the system, e.g. training temporary managers
- in response to customer complaints regarding water quality
- any other issue.

5.1 Contingency plan

Issue	Likely actions that could be taken
Dirty or smelly water	• *Check water quality direct from the bore* • *Check water quality in tank* • *Check tank integrity* • *Check bore head integrity* • *Consider dosing tank with chlorine* • *Flush lines* • *Provide bottled water for drinking, food preparation, cleaning teeth*
Unpleasant taste to water	• *Check water quality direct from the bore* • *Check water quality in tank* • *Check tank integrity* • *Check bore head integrity* • *Consider dosing tank with chlorine* • *Flush lines* • *Provide bottled water for drinking, food preparation, cleaning teeth*
Positive E. coli test	• *Check water quality direct from the bore* • *Check water quality in tank* • *Check tank integrity* • *Check bore head integrity* • *Contact Public Health Unit for advice* • *Sign post all outlets that water supply is contaminated and not to be used for drinking, food preparation or consumed when cleaning teeth* • *Use bottled or boiled water for drinking, food preparation, cleaning teeth* • *Re test water for E. coli* • *Consider dosing tank with chlorine* • *Boil water alert*

5.2 Emergency contacts

Contact	Name	Contact Details
Public Health Unit	1300 066 055 *http://www.health.nsw.gov.au/Infectious/pages/phus.aspx*	
Local Council	Anywhere Council	13 0000
Pollution Incident Hotline	NSW Environment Protection Authority	131 555
Plumber	Bill's Plumbing	0414 414 414
Tank Cleaner	Bill's Plumbing	0414 414 414
Electrician	Jo Sparks	0414 141 141
Plumbing Supplies	Anywhere irrigation supplies	0414 444 444
Bottled Water Supplier	Wet Water bottled water supplier	0414 444 444
Water Carter	Wet Water carter	0414 444 444