Montana Department of Public Health and Human Services
Food and Consumer Safety Section

CIRCULAR FCS 1

MONTANA STANDARDS FOR NON-PUBLIC WATER SUPPLIES SERVING LICENSED ESTABLISHMENTS

Rev. 10.06.2016

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Chapter 1 – APPLICABILITY

1.1 The standards and requirements of this circular apply to non-public water supplies serving licensed establishments as defined in 2.4.

1.2 A drinking water supply that meets the standards described in this circular might not meet the standards applicable to a public water supply as defined by the Montana Department of Environmental Quality (DEQ) and United States Environmental Protection Agency (EPA). Any drinking water system that meets the definition of a public water supply must be constructed to public water supply standards and be approved by DEQ.

1.3 A licensed establishment may be subject to additional state or local regulations.

Chapter 2 – DEFINITIONS

2.1 "**Acute violation**" means an exceedance of a Maximum Contaminant Level (MCL) as defined by the Environmental Protection Agency (EPA).

***E. coli* MCL Violation**	A water supply will receive an *E. coli* MCL violation when there is any combination of an EC+ sample result with a routine/repeat TC+ or EC+ sample result:	
	E. coli MCL Violation Occurs with the Following Sample Result Combination	
	Routine	Repeat
	EC+	TC+
	EC+	Any missing sample
	EC+	EC+
	TC+	EC+
	TC+	TC+ (but no *E. coli* analysis)
Nitrate MCL Violation		10 mg/L (ppm)

2.2 "**Cistern**" means a tank for storing potable water that serves a licensed establishment. "Cistern" can also mean a licensed water hauler tank connected directly to a licensed establishment.

2.3 "**Groundwater source**" means a subsurface drinking water source from a dug, drilled, bored or driven well or infiltration lines.

2.4 "**Licensed establishment**" means retail food establishments regulated under MCA Title 50, Chapter 50; wholesale food manufacturers regulated under MCA Title 50, Chapter 57; public accommodations regulated

under MCA Title 50, Chapter 51; trailer courts and campgrounds regulated under MCA Title 50, Chapter 52; daycares regulated under MCA Title 22, Chapter 2, Part 7; schools regulated under Title 50, Chapter 1, Part 2; tattoo and body piercing establishments regulated under Title 50, Chapter 48; pools, spas and other recreational water features regulated under Title 50, Chapter 53, and developmentally and physically disabled group homes regulated under Title 53, Chapter 20, Part 3 and 4.

2.5 "**Mixing zone**" means an area as established in a permit or final decision on nondegradation issued by the regulatory authority where water quality standards may be exceeded, subject to conditions that are imposed by the regulatory authority and that are consistent with the rules adopted by the board; as defined in 75-5-103 (21) MCA.

2.6 "**Non-public water supply system**" means a system for the provision of potable water not meeting the definition of public water system.

2.7 "**Peak instantaneous demand**" means the highest flow rate on the hydrographic curve, expressed as a volume per unit of time. This is calculated from a Fixture Unit analysis per the UPC, AWWA Fixture Value Method, or by applying a peaking factor to the Average Day Demand in gallons per minute, or other means acceptable to the regulatory authority.

2.8 "**Public water supply system**" means a system for the provision of water for human consumption from a community well, water hauler for cisterns, water bottling plant, water dispenser, or other water supply that has at least 15 service connections or that regularly serves at least 25 persons daily for any 60 or more days in a calendar year. In estimating the population that will be served by a proposed residential system, the reviewing authority shall multiply the number of living units by 2.5, so that ten or more proposed residential connections will be considered a public system, as defined in ARM 17.36.101(43).

2.9 "**Regulatory authority**" means the local, state, or federal enforcement body or authorized representative having jurisdiction over licensed establishments.

2.10 "**Surface water source**" means a drinking water source from any tributary stream, ditch or drainage basin, natural lake and artificial reservoir. For the purposes of this circular, surface water includes any groundwater directly connected to surface water or open to the atmosphere.

2.11 "**Variance**" means a departure from a condition in this circular which is approved by the regulatory authority in accordance with Chapter 8.

Chapter 3 – WATER SOURCE DEVELOPMENT

3.1 Source Assessment

Applicants of a new non-public water supply must submit a written source water assessment that includes the following information:

3.1.1 Facility Information:

3.1.1.1 Business name, location address and legal description

3.1.1.2 Type of establishment(s) served (i.e. tourist home, day care center, etc.)

3.1.1.3 Owner name and mailing address

3.1.1.4 Primary contact person and phone number

3.1.1.5 Copy of any pertinent Certificate of Subdivision Approval with lot layout map

3.1.2 Water System Information:

3.1.2.1 Description of the type of water source (i.e. well, spring, etc.)

3.1.2.2 How many people will be served (include employees and peak number of customers)

3.1.2.3 Estimated peak instantaneous demand

3.1.2.4 Description of any existing or proposed water treatment devices

3.1.2.5 A scaled lot layout that includes:

3.1.2.5.1 Buildings and other structures;

3.1.2.5.2 Complete water system layout from the water source all parts of the connected plumbing system, even those not directly serving the establishment;

3.1.2.5.3 Wastewater systems with mixing zones;

3.1.2.6 Well log(s) for all existing wells on the property or that will serve the licensed establishment.

3.1.2.7 Lab analysis results for existing water sources, including coliform bacteria within the previous three months and nitrate ("mg/L NO3-N" or similar) within the previous twelve months.

3.1.2.8 A detailed description of land uses and activities within a 100- foot radius of the water sources, including but not limited to roadways, driveways, parking areas, utilities, culverts, stormwater collection or conveyance features, buildings, shed or other structures.

3.1.2.9 General land uses and activities within a 500-foot radius of the groundwater source or intake, identifying sewered residential, sewered commercial, unsewered residential, unsewered commercial, agricultural, grassland or forest.

3.2 Design Capacity

3.2.1 The total developed water source capacity of the water system must meet projected maximum daily demand and peak instantaneous demand. Adequate storage in accordance with Chapter 6 will be required if the source capacity is not able to meet peak instantaneous demand.

3.2.2 The active volume of the hydropneumatic tanks must be sufficient to limit pump cycling to the manufacturer's recommendations.

3.2.3 Projected maximum daily demand must meet or exceed the projected wastewater flows established in Circular DEQ 4 2013 Edition for residential and nonresidential uses.

3.3 Groundwater Source Location

3.3.1 Before installation of a new groundwater source, the location must be approved by the regulatory authority, based on the requirements of this Chapter.

3.3.2 A groundwater source must be located at least 100 feet from surface water, stormwater infiltration structures, drainfields, lagoons or other facility used to dispose of wastewater.

3.3.3 A groundwater source must be located at least 50 feet from a sealed component that conveys, retains or treats wastewater such as a septic tank, sewer line, holding tank or lined pond.

3.3.4 A groundwater source may not be located within ten feet of a 100-year floodplain.

3.3.5 A groundwater source may not be located in a mixing zone.

3.3.6 A groundwater source must be protected from potential sources of pollution.

Chapter 4 – WATER SYSTEM DESIGN AND CONSTRUCTION

4.1 Materials, Security and Protection

4.1.1 All materials used in the water system, including pipes, hoses, tubing, fittings, valves, storage facilities, coatings and fire hydrants must conform to applicable AWWA and ANSI/NSF standards at the time of installation. In the absence of such standards, all materials must be appropriate for potable water and approved by the regulatory authority.

4.1.2 All water system components must be secured and protected from physical damage, tampering, freezing and other possible contamination.

4.2 Well Construction

4.2.1 Wells must be constructed in accordance with ARM Title 36 Chapter 21 subchapter 6 in addition to the requirements of this circular

4.2.1.1 Wells must be at least 25 feet deep.

4.2.1.2 Wells may not be located in pits.

4.2.1.3 The top of the well casing must extend at least 18 inches above the finished ground surface or well house floor.

4.2.1.4 The top of the well casing at a site subject to flooding must be surrounded by an earth mound meeting the following:

a. at least two feet above the 100-year flood level or highest know flood elevation, whichever is greater; and

b. extend at least 25 feet in all directions from the wellhead.

4.3 Distribution Piping

4.3.1 Piping must be watertight.

4.3.2 The water system must be provided with a means of discharging to waste, but may not be directly connected to a sewer.

4.3.3 The water system should be equipped with a sampling tap, preferably smooth-nosed.

4.4 Pumping Facilities

4.4.1 Pumping facilities must be designed to provide the necessary quantity of potable water in accordance with 3.2.

4.4.2 Pumping facilities must be accessible and may not be subject to flooding, located in pits, or subject to contamination.

4.4.3 A pump must be provided with an accurate and functioning pressure gauge on its discharge line, pressure-relieving device, and pressure operated start-stop controls.

4.5 Valves

4.5.1 The water system must have adequate control valves and other components needed for satisfactory operation, maintenance and repair.

4.6 Water Storage and Pressure Tanks

4.6.1 The material and design used for finished water storage structure(s) must provide stability, durability and protect the quality of the stored water. A porous material such as wood or concrete block is not suitable as a potable water contact surface.

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4.6.2 Pressure tanks must be completely housed and located above ground surface, protected from flooding, and not in a pit.

4.6.3 Pressure tanks must be installed according to manufacturers' instructions.

4.6.4 Where multiple tanks are used, each tank must have isolation piping and valves to allow operation of the system when a tank is being repaired or maintained.

4.6.5 Each tank must have a means of draining, an air blow-off, and a means for adding air.

4.6.6 Storage tanks must be sized to provide adequate chlorine contact time, when applicable. Tanks with a common inlet and outlet will not be considered for chlorine contact time.

4.7 Pressure

4.7.1 The water system must be designed to maintain at least 35 psi during normal operation and must not drop below 20 psi during peak use.

Chapter 5 – WATER SUPPLY REQUIREMENTS

5.1 Disinfection Required

5.1.1 Continuous disinfection is required where the well casing is perforated within 25 feet of the ground surface.

5.1.2 Continuous disinfection is required where the water source is an aquifer with a seasonal high water table within 25 feet of ground surface.

5.1.3 Continuous filtration and disinfection is required for all surface water sources.

5.2 Treatment Processes and Equipment

5.2.1 All equipment must be designed to be operated within manufacturer's recommended parameters.

5.2.2 The establishment must provide a written operation plan for each treatment process.

5.2.3 At a minimum, surface water must be filtered through a 5 micron filter, followed by a 1 micron filter, followed by continuous chlorine or ultraviolet disinfection.

5.2.4 Any treatment process and equipment used to remove contaminants must be either a NSF approved treatment system or designed by a professional engineer, and approved by the regulatory authority.

5.2.5 A treatment process or device for a non-regulated contaminant does not require approval by the regulatory authority if the treatment device is ANSI or NSF approved and installed according to applicable plumbing codes. Examples include water softening and turbidity removal.

5.3 Chemical Application

5.3.1 Except as required by 5.1 and 5.2, chemicals may not be applied to drinking water unless specifically approved or required by the regulatory authority.

Chapter 6 – CISTERNS

6.1 Filling

6.1.1 Water used to fill the cistern must be from a potable water source that is approved by the regulatory agency.

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6.1.2 Water hauled by anyone other than the owner of the licensed establishment must be delivered by a licensed water hauler, and obtained from an approved public water supply.

6.1.3 All tanks and hoses used to transport or deliver water to a cistern must be approved for potable water, and must be cleaned and sanitized.

6.2 Location

6.2.1 The cistern must be located at least 10 feet from a foundation and have positive drainage away from it to prevent surface water from entering and contaminating the interior.

6.2.2 A cistern may not be located in a pit.

6.2.3 Subsurface cisterns and above ground cisterns with underground piping must be located:

6.2.3.1 at least 100 feet from surface water, stormwater infiltration structure, drainfield, lagoon or other facility used to dispose of wastewater;

6.2.3.2 at least 50 feet from a sealed component that conveys, retains or treats wastewater such as a septic tank, sewer line, holding tank or lined pond; and

6.2.3.3 not within a known or established 100 year floodplain.

6.3 Construction

6.3.1 All cistern materials must conform to Circular DEQ 17 2002 Edition.

6.3.2 A cistern must be structurally sound and used in accordance with manufacturer's instruction.

6.3.3 A cistern must be watertight. A 24-hour water tightness test showing no water loss must be performed on each cistern before it is put into service.

6.3.4 Any access port to a cistern must be a minimum of 24" diameter to allow an average-sized person to reasonably enter and exit for cleaning and maintenance purposes.

6.3.5 For above ground cisterns, the access opening must extend at least 6" above the top of the cistern.

6.3.6 For subsurface cisterns, the top of the access opening must be at least 18" above the ground surface to prevent surface water from entering the cistern.

6.3.7 The access must have a shoebox style lid that extends at least 2" over the access opening. The access lid must be securely fastened to prevent unauthorized entry and have a seal to prevent surface water, precipitation and insects from entering the cistern.

6.3.8 A cistern must be vented to allow the free flow of air in and out of the cistern as the water level inside the cistern changes.

a. The vent must extend to the surface, above the expected snow level, and be designed to prevent the entry of water.
b. The vent opening must be screened with corrosion resistant, 24-mesh (or smaller) screen cloth to prevent the entry of insects, birds and other animals.

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6.3.9 A licensed water hauler tank may be used as a temporary cistern if adequate backflow devices are used.

6.4 Cleaning and Disinfection

6.4.1 The cistern must be flushed to remove any sediment and thoroughly shock disinfected after construction, installation, repair or maintenance.

Chapter 7 – SAMPLING REQUIREMENTS

7.1 Routine Bacteria Sampling

7.1.1 An establishment using a nonpublic water supply system must have drinking water routine samples analyzed for total coliform bacteria as follows:

7.1.1.1 before initial licensing; and

7.1.1.2 at least each calendar quarter that the system provides water to the public, with the exception of seasonal establishments;

7.1.1.3 seasonal establishments must collect samples every month that the establishment is in operation unless it has an approved sample siting plan that designates the time period for monitoring based on site-specific considerations (e.g., during periods of highest demand or highest vulnerability to contamination) approved by the local regulatory agency.

7.1.2 The routine sampling schedule must include collection when the water source is most likely to be contaminated, such as during April through June, September through October, during high, ground-water season, or as directed by the regulatory authority.

7.1.3 Routine samples must be collected at sites that are representative of water quality throughout the distribution system, in accordance with a written plan approved by the regulatory authority.

7.1.4 The regulatory authority may require the establishment to sample:

7.1.4.1 monthly; or

7.1.4.2 if an inspection, sampling results, or an event indicates the water source is at high risk of contamination.

7.1.5 The regulatory authority may return the establishment to the sampling frequency stated in the applicable subparagraph of (7.1), if an examination of the drinking water system by the local regulatory authority indicates the system is no longer at high risk of contamination.

7.1.6 The regulatory authority may reduce the monitoring frequency for a well-operated ground water system from quarterly routine monitoring to no less than annual monitoring, if the system demonstrates that it meets the criteria for reduced monitoring:

a. The system has a clean compliance history for a minimum of 12 months;

b. A sanitary survey performed within the last 12 months shows that the system is free of sanitary defects or has corrected all identified sanitary defects, has a protected water source, and meets approved construction standards.

7.2 Bacteria Detected Sampling

7.2.1 If total coliform bacteria are detected in a nonpublic water system routine sample, the sample must:

7.2.1.1 immediately be tested for the presence of Escherichia coli bacteria; and

7.2.1.2 follow verification and remediation steps described in Appendix II; and

7.2.1.3 if verification steps in (7.2.1.2) confirm an acute violation, the local regulatory authority and the operator of a licensed establishments must be notified of the water test results within 24 hours of completion of the positive test;

7.2.2 Water systems that are confirmed to have an acute violation will be issued:

7.2.2.1 a written acute violation notice; and

7.2.2.2 a written drinking water advisory notice;

7.2.3 The notices in 7.2.2 will be issued by the local regulatory authority to the establishment operator within 24 hours of receiving the test results in (7.1.2);

See Appendix I for a model of the notices.

7.3 Nitrate Sampling

7.3.2 An establishment using a nonpublic water supply system must have a water sample analyzed for total nitrates before initial licensing and at least every three years the establishment is operating.

7.4 Analysis and Reporting

7.4.1 Water samples must be analyzed by a laboratory that is state licensed and certified for drinking water analysis using EPA drinking water methods.

7.4.2 The establishment must report test results to the local regulatory authority in a format acceptable to the local regulatory authority within 30 days of receiving results.

7.4.3 The establishment must keep test results readily available for inspection purposes on the premises of the licensed establishment for at least five years.

7.5 Corrective Actions

7.5.1 If an establishment with a nonpublic water supply fails to take the required samples following the detection of total coliform bacteria, or the laboratory fails to test for Escherichia coli in coliform positive samples, the establishment must follow corrective actions as specified in 7.5.2.

7.5.2 For nonpublic water systems, appropriate corrective actions must be implemented in a timely manner to eliminate the condition or conditions that resulted in the positive test result(s), which may include shock disinfection of the entire water system and replacement or repair of the water system by a date set by the local regulatory authority when:

7.5.2.1 a water sample exceeds a maximum contaminant level as specified in ARM Title 17, chapter 38, subchapter 2;

7.5.2.2 the water system does not have the capacity to provide the quantity needed for drinking, food processing, personal hygiene, or cleaning;

7.5.2.3 after examination of the water system, the local regulatory authority provides a written report to the operator or person-in-charge that the water system is at high risk of contamination;

7.5.2.4 a pathogenic microorganism is detected in a sample; or

7.5.2.5 a confirmed disease outbreak is linked with the water system.

7.5.3 When a water system is replaced or repaired, the water system must be shock disinfected before the system is placed into service.

7.5.4 The local regulatory authority will issue a restricted-use order to an establishment using a nonpublic water supply when:

7.5.4.1 the acute presence of Escherichia coli is confirmed in a nonpublic water system sample;

7.5.4.2 total nitrate level is greater than 10 milligrams per liter in a nonpublic water system sample;

7.5.4.3 maximum contaminant levels exceed parameters specified in ARM Title 17, chapter 38, subchapter 2;

7.5.4.4 a pathogenic microorganism is detected; or

7.5.4.5 a confirmed disease outbreak is linked with the water system.

7.5.5 An establishment must follow the requirements in a Restricted Use Order.

7.6 Temporary Water Source

An establishment with a nonpublic water supply subject to a restricted-use order must provide and use a temporary source of potable water for consumers and staff for drinking, food processing, personal hygiene and cleaning, or immediately discontinue operations.

7.6.1 With approval from the local regulatory authority, an establishment with a nonpublic water supply may provide potable water on a temporary basis using one or more of the following:

7.6.1.1 bottled or packaged potable water from a department-licensed wholesale or retail food establishment, if the water is dispensed directly from the original container;

7.6.1.2 water from a Department of Environmental Quality (DEQ)-approved public water supply that meets the requirements of ARM Title 17, chapter 38, subchapters 1, 2, 3, and 5, stored in a clean, sanitized, and covered potable water container or holding tank;

7.6.1.3 water delivered by a department-licensed potable water hauler;

7.6.1.4 if the water is contaminated with fecal coliform bacteria or Escherichia coli, water that has been boiled for at least one minute, and stored and served from a clean, sanitized, and covered container; or

7.6.1.5 other source approved by the local regulatory authority.

7.6.2 If the local regulatory authority determines that boiling water will not provide adequate potable water, it may require an establishment with a nonpublic water supply to use another approved method for supplying water.

7.7 Restricted Use Order

7.7.1 An establishment with a nonpublic water supply that is subject to a restricted-use order must post an advisory sign or placard regarding the restricted-use order in a conspicuous place for public viewing at each point of entry, or as directed by the local regulatory authority.

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7.7.2 A nonpublic water supply under a restricted-use order may not be used to make ice for food or beverages.

7.7.3 An establishment with a nonpublic water supply that is subject to a restricted-use order may wash, rinse, and sanitize dishes, utensils, and equipment using the affected water system, if using an approved chemical disinfectant or dish machine that reaches 180°F (82°C) during the final rinse cycle, or as directed by the local regulatory authority.

7.7.4 A restricted-use order on a nonpublic water supply may be cancelled by the local regulatory authority after:

7.7.4.1 Laboratory sampling test results demonstrate that the water supply is safe;

7.7.4.2 Water system plumbing is completely flushed with cold water for at least five minutes; and

7.7.4.3 Food-contact surfaces and equipment directly and indirectly connected to the water system must be cleaned and sanitized prior to use including, but not limited to: post-mix carbonated beverage machines, spray misters, coffee makers, tea urns, ice machines, glass washers, and dish machines.

7.8 Seasonal Water Supplies

7.8.1 Seasonal start-up procedure: nonpublic water systems that serve licensed establishments for only part of the calendar year, and the pressure in the system is relieved in at least a portion of the system during the part of the year the establishment is not operating must complete the following prior to serving the public for the season of operation:

7.8.1.1 thoroughly inspect the water well casing, cap, electrical conduit, vent screen, and other relevant well components that are part of the well system, and repair defects found during the inspection; and

7.8.1.2 thoroughly inspect the area near the water well for possible contamination sources, and effectively address problems found during the inspection; and

7.8.1.3 thoroughly inspect the plumbing and water well systems for possible cross-connection to non-potable water sources, and unused plumbing pipes, and effectively address problems found during the inspection; and

7.8.1.4 after completing 7.8.1.1 through 7.8.1.3, the water system must be thoroughly flushed with fresh water; and

7.8.1.5 after completing 7.8.1.1 through 7.8.1.4, the establishment operator must notify the local regulatory authority in a timely manner that seasonal start-up procedure was completed.

7.8.2 The local regulatory authority will provide the establishment operator a document on how to implement the seasonal start-up procedure. See Appendix III.

Chapter 8 – VARIANCES

8.1 Variances Allowed

8.1.1. A variance from the standards established in this circular may be granted by the regulatory authority, on a case-by-case basis.

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8.1.2 A licensee may request a variance to waive or modify compliance with the requirements of circular by petitioning the regulatory authority.

8.1.3 An application for a variance must contain:

8.1.3.1 A statement of the proposed variance from the circular requirements, citing the relevant section numbers; and

8.1.3.2 A rationale explaining how the potential public health hazards addressed by the relevant section will be alternatively addressed by the proposal.

8.1.3.3 The regulatory authority may grant a variance by modifying or waiving these requirements if, in the opinion of the regulatory authority, a health hazard will not result from the variance.

8.1.3.4 The failure to continuously demonstrate compliance with a variance or modification may result in license revocation.

8.1.3.5 The regulatory authority reserves the right to deny or revoke a variance if, in its judgment, a health risk may occur.

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Appendix I

Model Letter - Acute E coli violation

DATE

ESTABLISHMENT NAME
ESTABLISHMENT ADDRESS
ESTABLISHMENT CITY, STATE, ZIP CODE
ESTABLISHMENT LICENSE NUMBER

SUBJECT: Water test results - acute E coli violation

Dear OWNER NAME:

Water sampling test results for this establishment indicated the presence of E. coli bacteria. This is a violation of State of Montana drinking water standards for licensed establishments using nonpublic water systems (FCS Circular 2). This violation requires prompt action to avoid possible serious or adverse health consequences.

IMMEDIATE RESPONSE

Do not use unsafe water For drinking and food preparation, use only safe water sources. Below is a short list of alternative water supplies or treatment that should be safe: 1. Commercially bottled water 2. Water from a licensed water hauler 3. Boiling water from the existing system for at least 1 minute 4. An alternative water supply approved by your local sanitarian Washing equipment and utensils is only allowed after appropriate precautions have been implemented, such as using approved sanitizing methods.
Discard unsafe ice, food and beverages When in doubt, throw it out: this should be the approach to ice, food and beverages that may be unsafe, due to a suspect water supply.
Post public notice Post the public notice about this problem. The notice must posted in the establishment in a conspicuous place for public viewing within 24 hours after being notified of the violation.

CORRECTIVE ACTIONS

Examine system for contamination Faulty well caps and unused plumbing pipes (dead ends) are frequent contamination sources. Examine the water well cap, casing, pressure tank, and plumbing for possible sources of contamination. If assistance is needed, please contact your local sanitarian, plumber, pump installer or well driller for a consultation. Eliminate and address possible contamination sources.
Disinfect water system Super-chlorinate the water system as soon as possible. Please refer to the enclosed document about how to super-chlorinate the water system. A licensed well driller or pump installer are usually good sources to assist with chlorination. Take appropriate safety precautions when chlorinating water.

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ADDITIONAL SAMPLING

The samples collected in these steps will determine whether the corrective actions were effective.

Step 1: Collect two investigative samples

A. Collect investigative water samples at least 24 hours after the chlorine has been completely flushed from the well and distribution system
B. Collect one sample at or before the water pressure tank
C. Collect the second sample from any location within the water distribution system
D. Submit samples for testing
E. Go to Step 2

If these locations are not available or accessible, contact your local sanitarian for guidance.

Step 2: Investigative samples are safe

A. From the same collection sites from Step 1, collect another set of two samples at least 24 hours after the first set
B. Submit the samples for testing

SAFE TEST RESULTS: Go to Step 3
UNSAFE TEST RESULT(S): Go back to "CORRECTIVE ACTIONS" and repeat Steps 1 and 2

Step 3: Collect three repeat samples

A. You must take <u>at least three</u> distribution system samples on or about 30 days after the date of taking the safe samples.

SAFE TEST RESULTS: The local sanitarian will notify you that the water is safe to use. At that time, normal use of the water is allowed, the Drinking Water Advisory will be terminated, and you may return to the normal sampling schedule.
UNSAFE TEST RESULT(S): Go to Step 4

Step 4: Repeat sample(s) unsafe

A. If only <u>one sample</u> is bacteria positive:
   i. Take one sample from the same location as the unsafe sample
   ii. Take one sample downstream from unsafe sample
   iii. Submit the two samples for testing
B. If <u>two or more samples</u> are bacteria positive:
   i. Go back to "CORECTIVE ACTIONS"
   ii. Contact local sanitarian for system re-inspection. If action steps fail, other options must be considered to eliminate the problem.

Instructions for Public Notice

1. Complete the section: "What is being done to correct the problem?"
2. Complete the section: "Questions regarding this notice should be directed to:"
3. Post the notice within 24 hours after receiving unsafe E coli test results
4. Post the notice at all drinking water outlets for as long as the water remains unsafe Make copies of the "Drinking Water Advisory," if needed.

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Drinking Water Advisory

PUBLIC NOTICE

E. Coli bacteria were found in the water supply serving this establishment. These bacteria can make people sick, and are a specific concern for people with weakened immune systems. The operator of this establishment routinely monitors for the presence of drinking water contaminants. A water sample collected during the prescribed sampling period indicated the presence of E. Coli bacteria. Further sampling confirmed their presence. The presence of E. Coli bacteria in the drinking water is a violation of Montana drinking water standards.

What actions should be implemented?

Ice, food, and beverages prepared with unsafe water must not be served or sold to consumers.

Water must be boiled or use an approved and alternative water supply for drinking, food, and ice. Boiled water must be treated for at least 1 minute before use. This establishment must use alternative or approved water until additional sampling shows that no bacteria are present. This establishment is working to resolve the problem.

What do the test results mean?

E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, the elderly, and people with severely compromised immune systems. The symptoms described above may also be caused by sources other than drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice. People at increased risk should seek advice about drinking water from their health care providers.

What is being done to correct the problem?

Questions regarding this notice should be directed to:

NAME OF RESPONSIBLE PARTY	
ADDRESS	
CITY, STATE, ZIP CODE	
TELEPHONE	
DATE	

Acute Violation Notice

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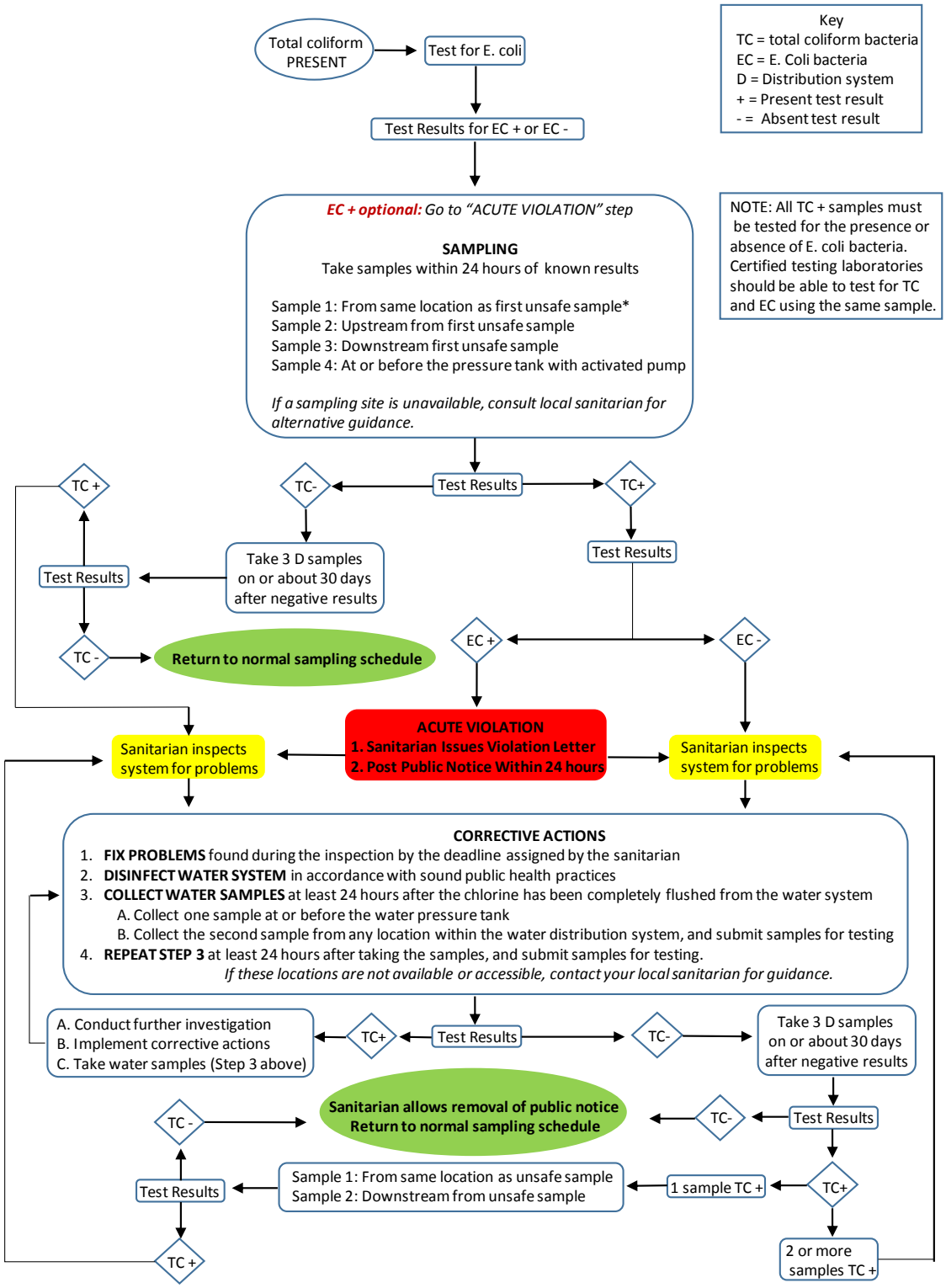
Appendix II

Rev. March 2016

Nonpublic Water Test Results
Bacteria Positive Flowchart



Rev. October 2016

Nonpublic Drinking Water in Licensed Establishments

Seasonal Start-Up Procedure

Start-up Checklist

	Inspect Well and Repair Defects
	Eliminate Contamination Sources
	Eliminate Cross-connections
	Flush the System
	Notify Sanitarian

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Why was I sent this document?

Owners/operators of seasonal nonpublic water systems must perform an approved “Seasonal Start-Up Procedure” to ensure that safe water is being provided to your patrons. If you are receiving this booklet, your facility has been identified as a seasonal nonpublic water system. If you believe this information is incorrect, please contact your local sanitarian.

What is a seasonal nonpublic water systems?

A “*seasonal nonpublic water system*” starts up and shuts down at the beginning and end of each operating season. Also, the pressure in at least part of the system is relieved at some point during the year. Examples include: ski chalets, summer resorts, campgrounds, and restaurants that are only open during part of the year.

What do I have to do?

Complete the 5-steps described in this booklet prior to serving water to the public.

Seasonal Start-up Procedure
Step 1

Inspect Well and Repair Defects

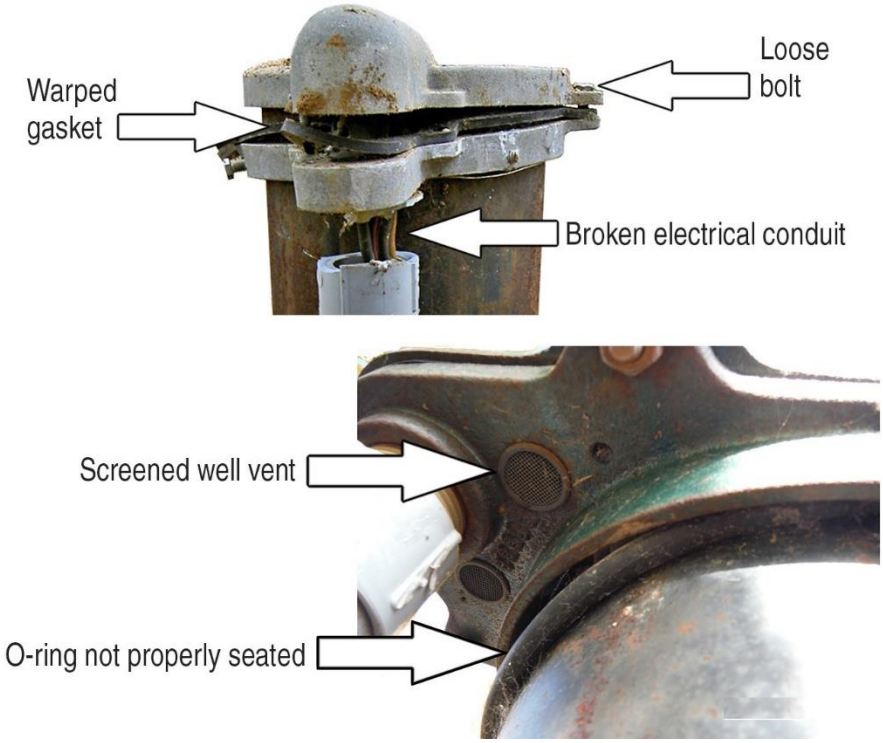
A. Well cap fits tightly on casing and is not broken

B. Well cap bolts are present and tight against cap

C. Vent screens are present and not damaged

D. Electrical conduit is not broken and does not have exposed wires

E. O-ring is present and in good condition



Seasonal Start-up Procedure
Step 2

Eliminate Contamination Sources

Check area near well for potential contamination sources and eliminate problems. Common contamination sources:

A. **POOLED WATER** around the well due to ground depressions, flooding, rain, or snowmelt. The land around the well should be graded to direct water away from the well

B. **EXCESSIVE VEGETATION** growing on or over the well area

C. **ANIMAL WASTE** near the well should be removed in a timely manner

D. **STRUCTURES** placed over the well may house debris, serve as insect homes or harbor rodent nests that may contribute to contaminating a well

Seasonal Start-up Procedure
Step 3

Eliminate Cross-connections

Cross Connections occur when a drinking water system is directly connected to a non-drinking water system that operates under higher pressure than the drinking water system. This circumstance may allow contaminated water to flow backwards into your drinking water system, if proper plumbing devices are not installed. Also, check the plumbing system for unused or “dead end” pipes, which could contaminate the system, and remove unused pipes by properly capping ends.

Rubber hoses, flexible tubing, water softeners, ice machines, old toilet tanks, and soda machines are common cross-connections that can provide an opportunity for contaminated water to be sucked into the drinking water supply. Typical cross-connections can be avoided by installing a backflow prevention device. Eliminate cross connections at threaded faucets by installing a hose-bib vacuum breaker (available at most hardware stores for about $10 or less).

Additional causes of cross-connections include the drinking water system being improperly connected to a non-drinking water system, such as an irrigation ditch or well, water boiler, or heat exchanger.

Photo: Hose-bib vacuum breakers for threaded faucets

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Seasonal Start-up Procedure
Step 4

Flush the System

The entire water system must be flushed with fresh water to replace stagnant water. This may be accomplished by turning on all faucets and flushing toilets for several minutes until you are confident fresh water has passed through the entire distribution system. Brown or murky water flowing out of the facet is common during start-up for a season. The water should be clear within several minutes of flushing.

Optional Step: Cautious operators may want to chlorinate the well and distribution system at the beginning of the season. This step is not required. Information on how to chlorinate a well is available from your local sanitarian, well driller, or Montana State University. The following Web site also has well chlorination information: http://waterquality.montana.edu/well-ed/

Seasonal Start-up Procedure
Step 5

Notify Sanitarian

The final step to the seasonal start-up procedure is to notify your local sanitarian that the prior 4 steps were completed. Please contact your local sanitarian by their preferred method, which could be by telephone, e-mail, postal mail, in-person, or through another means.

Start-up Checklist

	Inspect Well and Repair Defects
	Eliminate Contamination Sources
	Eliminate Cross-connections
	Flush the System
	Notify Sanitarian

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CERTIFICATION STATEMENT

I certify the nonpublic water supply seasonal start-up procedure was properly completed

Operator Name	
Facility Name	
Facility Location	
Date Completed	
Date Opening	
Telephone Number	

This certification statement should be sent to your local sanitarian. Questions about the procedure and statement should be addressed to your local sanitarian. Other questions may be directed to the following state agency:

Montana DPHHS-Food and Consumer Safety Section
1400 Broadway Street, C-214
Helena, MT 59620-2951
Telephone 406.444.2837

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