These notes were superseded on June 10, 2021. All users are now required by the Metro District to have a new double check meter in the meter pit, thus customer cistern and plumbing configurations will NOT need to be altered to conform to the previously published standards.

METROPOLITAN DISTRICT
33712 Mountain View
Trinidad, CO 81082

CO Public Water System ID: **CO** *0136700*

October 1, 2020

Dear Metro Client,

This letter explains a major change in the way the SFTR Metro water supply connects with individual users' cisterns. It is a departure from how the Metro / users have been operating since our water distribution system's inception nearly 20 years ago. It is disconcerting but required that we all understand and adapt to the new mode of operation.

Background: As the Metro understands the situation, an incident occurred recently in another community water system similar to ours, where a cistern's contents backfed or backsiphoned into the water distribution system. This precipitated actions on the part of the Colorado Department of Public Health and Environment that have filtered down to us in the way of new regulations. The Metro has explored alternative physical solutions for several months that included a meeting with CDPHE personnel, proposing additional but simpler backflow prevention measures, and asking for grandfather status to keep our system "as-is". All to no avail as we learned a few days ago; we must comply with the new regulations. We have no alternative if we wish to continue to operate our water distribution system. We gave it our best and did not prevail.

What's required: Cisterns (or above ground water storage tanks) may no longer be connected directly to the Metro distribution system, as nearly all are at present. There are exceptions as described on the attached guideline sheet from CDPHE. The exception terminology is a bit obscure, but basically if a directly-connected user uses a float valve to fill a cistern, the cistern must have an unobstructed drain line just above the shutoff level of the float (annual inspection required). For existing cisterns, this would require drilling a hole in the side of the cistern wall, excavating a sloping trench away from the cistern, and installation of a drain line. The other option is to install a backflow prevention assembly on the user's premises (they will not fit in our meter pits); this assembly would cost several hundred dollars, must be above grade or have a drain line installed, and must be inspected annually by a certified specialist at an annual cost of a few hundred dollars; the above grade backflow assembly would also be subject to freezing unless housed in a temperature controlled structure.

The Metro assumes that most, if not all, users will opt for a much less costly approach: disconnect cisterns from the Metro water system, and fill manually with a hose. Any existing connection between the Metro meter pit and cistern must be permanently and irreversibly blocked. A fairly simple way to do this is to block the cistern's inlet port inside the cistern, rather than digging up underground plumbing to cisterns. Again, this internal block seems to be the easiest and least expensive for the majority of users.

The attached questionnaire will help us assess which cistern configurations need to be individually examined and documented. We must have information on each user's configuration in order to comply with CDPHE requirements**. If we don't receive your answer, the Metro must either hire a contractor to document your configuration at your expense, or suspend water service to your location.**

Once the questionnaires are received and reviewed, the Metro's next step must be to evaluate all cistern configurations. Any direct connection between the Metro and a cistern must be blocked or disconnected, either by the user or a contractor hired by the user. We do not yet have a deadline for having all users disconnected or outfitted with backflow prevention devices.

All existing and all new cistern installations must comply with the updated CDPHE guidelines--there are no exceptions. In light of the current moratorium on new water taps, new construction could allow for a future manual filling method via a frost-free hydrant or hose bib. Until the moratorium is lifted, water could be transported to the cistern. SFTR covenants require a cistern for each home; this requirement has not changed, as maintenance on the system may still requires occasional water service interruptions and a cistern / pump provides water to the home. Firefighting efforts also benefit from cisterns.

Direct connection from meter pits to dwellings is permitted by the Metro but not encouraged. First, maintenance needs may result in suspension of water service for hours or days. Second, the water pressure throughout the distribution system is regulated. If any of these mechanical regulators fail, high pressures at a user's location may damage plumbing, for which the Metro is not responsible. Third, there are some locations where water pressure in the Metro system is only adequate to slowly fill a cistern.

The Metro Board members' individual systems are each affected by this new ruling, just as are those of all users. We are as disheartened by these new CDHPE regulations as many of you are. Please work with us as we progress through these mandated changes.

SFTR Metro Board

METROPOLITAN DISTRICT
33712 Mountain View
Trinidad, CO 81082

CO Public Water System ID: **CO** *0136700*

COLORADO MANDATED CISTERN QUESTIONNAIRE

The Colorado Department of Public Health & Environment (CDPHE) recently enacted new cistern regulations (Reg 11.39). To comply with these new regulations the SFTR Metropolitan District is required to obtain information on how each cistern is connected to the Metro water system. Please complete the survey and return by November 1, 2020. If you do not know how your cistern connects to the Metro water supply please contact the Metro Office to request, at your expense, an outside contractor to visit your property to ascertain your cistern configuration. If the Metro doesn't receive your completed questionnaire, the Metro must either hire a contractor to document your configuration at your expense, or suspend water service to your location. Please mail or drop off the survey to the SFTR Metropolitan Office, 33712 Mountain View, Trinidad, CO 81082 by November 1, 2020.

QUESTIONNAIRE

1. Do you have a cistern or water storage tank on your property?

   ( ) YES ( ) NO

2. Is your cistern or storage tank connected directly to the Metro water system?

   ( ) YES ( ) NO

3. Is your cistern or storage tank filled manually from a source not directly connected to the cistern or storage tank, such as a frost-free faucet connected to a garden hose?

   ( ) YES ( ) NO

Owner affidavit: I certify that the above answers are true to the best of my knowledge.

_____ _____

Owner's Name Owner's Signature

_____ _____ _____

Address Lot Number Date

You MUST meet an approach listed below to remain in compliance

REQUIREMENTS:

PROTECTING DRINKING WATER

Your public water supplier is responsible for keeping the water safe as it travels to homes. There are many safety measures along the way. This guidance contains a detailed explanation of backflow prevention and cross-connection control specifically for public water systems with private cisterns. It is the department's expectation that systems with cisterns will meet all compliance requirements in the Colorado Primary Drinking Water Regulations (Regulation 11) and the Backflow Prevention and Cross-connection Control Implementation Policy (Policy 7). Private cisterns connected to public water systems can be a threat if not handled properly.

Public water suppliers cannot allow cross connections because they can affect the water quality by allowing non-potable water or contamination into the system lines. This backflow usually happens when there is a loss of water pressure in the distribution water line or a higher pressure in the private line than the distribution line. This is called a backflow event and creates a potential health risk for anyone using water from the system. Public water suppliers are in charge of controlling these cross-connections through backflow prevention.

Water stored in privately owned cisterns may be non-potable. Cisterns at residential properties can also be the source of backflow issues. Just like fire sprinkler systems can cause backflow threats, so can water cisterns. All private cisterns at residential connections must have approved backflow prevention. If a cistern is permanently connected to the public water supply, it requires tracking by the public water supplier and approved backflow prevention. If a cistern is not directly connected to the public water supply with a permanent fixture, it is considered controlled. Cisterns installed per the plumbing code do not need additional tracking.

IMPORTANT RESOURCES

- Colorado's Primary Drinking Water Regulations (Regulation 11)
- DW Policy 007 - Backflow prevention and cross-connection control policy
- WQ Guidance 007 - 11.39 BPCCC Guidance Document
- Colorado Plumbing Code

Public water suppliers that do not maintain compliance are subject to enforcement or disciplinary action.

❶ MEET THE PLUMBING CODE

Potable water cisterns that meet the 2018 International Plumbing Code (IPC) requirements are controlled. No additional prevention or control measures are needed. Tanks with vertical standpipes with fill valves installed above the water line that have an appropriately sized overflow automatically meet the IPC.

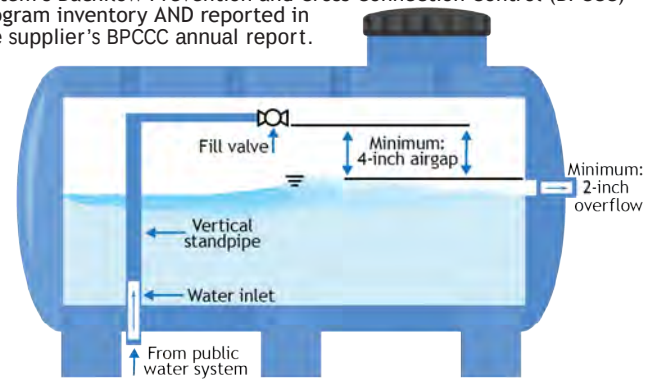
INLET PIPE

- Controlled by a fill valve or other automatic supply valve
- Ends with an air gap at least 4 inches above the overflow as shown in the figure below.

OVERFLOW PIPE

- Minimum 2 inches in diameter. (Actual size is calculated by maximum capacity of water supply line to tank)
- Covered with a corrosion-resistant screen not less than 16x20 mesh per inch and 1/4–inch hardware cloth **OR** ends in a horizontal angle seat check valve.

Public water suppliers with cisterns that do not meet the plumbing code must either install a testable assembly or utilize the method as described below. Utilizing an assembly or a method requires tracking by the supplier. These cross-connections must be shown in the system's Backflow Prevention and Cross Connection Control (BPCCC) program inventory AND reported in the supplier's BPCCC annual report.



❷ BACKFLOW PREVENTION ASSEMBLY

Suppliers may choose to install a backflow prevention assembly instead of determining if the cistern is in compliance with the plumbing code. If the cistern fills from the bottom, the tank is subject to backpressure. Backflow assemblies meet rigid safety requirements and control the cross connection. All backflow protection assemblies installed by the system must be tested annually by a certified cross-connection control technician.

ASSEMBLY CHOICES

- Double Check Assembly (DC) – allows water to push through two check valves when flowing the right way. Valves close when water goes the wrong way. **OR**
- Reduced Pressure zone assembly (RP) - which uses two independently acting valves to equalize pressure.

❸ BACKFLOW PREVENTION METHOD

Suppliers may find that some cisterns have air gaps less than the standard 4 inches. As long as there are not added chemicals, cisterns with combined methods below meet the BPCCC requirements.

COMBINED OPTION

Adding a dual check at the service connection. Acceptable only when COMBINED with the modified air gap (less than 4 inches). A dual check without an air gap is unacceptable. The air gap **MUST** be inspected annually.

For more information, check out our website at
colorado.gov/cdphe/drinking-water-cross-connection-control-program