



North Lauderdale Water Association

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STANDARD OPERATING PROCEDURE: HOME FLUSHING

I. Background. Discolored (dirty, brown) water in the NLWA system is caused by iron that naturally occurs in our well water. The water treatment plants remove 99% of it, but the remaining 1% can accumulate over the years in the lines as a fine sediment that sits on the bottom of the pipes. If something happens to cause the water that normally flows slowly to suddenly speed up, it can pick up this iron sediment and turns brown. We have a regular flushing program where we periodically open hydrants throughout the system in a systematic way to “blow off” this accumulated iron. However, there are places where it still evades us and can appear when we have a major leak or perform maintenance.

II. NLWA Actions when a customer complains of persistent discolored water:

1. Create a home flushing work order.
2. Dispatch a line crewman to meet the member at their home with a copy of this SOP.
3. Take a water sample at the meter or at an exterior water faucet on the meter side of the house to insure it is clear. If it is not clear, perform local system flushing until the water is clear.
4. Grant the member a 1,000-gallon credit on the next bill. Alternative is to read meter before and after flushing, and to grant a credit for the actual water used.
5. Give this SOP to the member and explain the following procedure:

III. Member Actions if persistent discolored water or air in lines is detected:

1. Test whether it is only cold water or hot water or both.
2. If the cold water is discolored, flush the cold water lines:
 - a. Most homes have an outdoor water faucet with a hose connection on the water meter side of the house, and another faucet on the opposite side of the house. First fully open the faucet on the water meter side of the house to test the water coming from the meter and flush any sediment and air from the service line that connects the water meter to your home. This will avoid drawing dirty water into the house. Once the pressure is stable and the water flows clear and without any air bubbles, close this faucet.
 - b. Open the outdoor faucet on the far side of the house to flush any dirty water already in the home out of the lines. Once it flows clear, shut it off.
 - c. Flush the inside cold water lines. Go through the home, beginning on the lowest floor and with the biggest faucets. Fully open each cold water faucet one by one to flush out any residual discolored water and air. Start with tubs, then showers, then sinks, then toilets. Run each at full flow until it is clear, and then shut it off. Move through each room and then upward to next floor.

3. If the hot water is discolored, flush the water heater(s) and hot water lines:
 - a. Turn off the power and/or gas supply to your water heater.
 - b. Connect a garden hose to the drain valve at the bottom of the tank and run the other end of the hose to a floor drain, tub, or outside of the house.
 - c. Open the drain valve on the tank and monitor the water exiting the hose to see the progress of your flushing. When the water flows clear, turn off the drain valve and disconnect the hose.
 - d. Restore power to your water heater.
 - e. Flush the inside hot water lines. Go through the home, beginning on the lowest floor and with the biggest faucets. Fully open each hot water faucet one by one to flush out any residual discolored water and air. Start with tubs, then showers, then sinks. Run each at full flow until it is clear, and then shut it off. Move through each room and then upward to next floor.

IV. General flushing and cleaning tips

1. Flush from the bottom to the top. Iron is heavier than water and tends to accumulate in pipes in the lower parts of a home and the bottom of any water heaters. It is best to flush it downward and outward beginning on the bottom floor of the home with the lowest faucets.
2. Flush rapidly. Water needs to move quickly in the pipes to pick up the iron sediment. When faucets are opened, they should be opened fully. Flushing should only be done in one room of the home at a time until the water is clear from every faucet in that room. This gets the water all moving in the same direction to get the flow in the pipes as fast as possible.
3. Iron sediment can accumulate and block water flow through shower heads and faucet aerators (the removable screen pieces at the end of the spout). If the flow through these seems to be blocked, they should be removed by unscrewing them and cleaned with a toothbrush. Soaking in the cleaning product "C-L-R" is good for removing calcium, lime, and iron stains (rust) from these fixtures. Ascorbic Acid (i.e., Vitamin C powder dissolved in water) is a super cleaner for removing rust stains and deposits.
4. Filling a pool. Even if water in the home is clear, it is possible for iron to accumulate in little-used lines, especially over the winter season. Members should check their garden hoses and pool service lines for clear water before filling a pool or water fountain pond, and flush first as necessary.