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## **PREVENTING SEWER BACKUPS**

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The City of San José is interested in working with residents and tenants to keep the sanitary sewer system flowing and functioning properly. Together, we can reduce sewer line blockages and sewer backups into homes and businesses, and reduce the amount of personal property damage, disruption and costly repairs.

### **WHAT IS “BACKFLOW” AND WHY DOES IT HAPPEN?**

Under certain conditions, stoppages in the sanitary sewer in your neighborhood could cause sewage wastewater to “back up” into a building, a condition called **backflow**. When there is a stoppage in the sewer main in the street, the sewer system upstream of the stoppage becomes flooded. The water level in the sewer will continue to rise until it reaches an overflow point, which usually is the **sewer manhole** above the stoppage. But in certain situations, the overflow point could be the **floor level** of plumbing fixtures in the building. This could occur if the floor level where a fixture is installed is less than one foot higher in elevation than the next upstream manhole.

### **HOW CAN I TELL IF MY PROPERTY IS AT RISK?**

A visual comparison of the **manhole elevation** to the floor elevation of the **lowest plumbing fixture** (usually a shower, bathtub or toilet) will indicate the potential for spillage of wastewater into a building. If the floor elevation of the lowest plumbing fixture is less than one foot above the next upstream manhole cover of the public or private sewer, the building is subject to backflow. The use of a **builder’s level** optical instrument can help determine the relative elevations to see if a building requires backwater valve protection. A licensed plumbing contractor can also determine these elevations with a civil plan.

The location of plumbing fixtures in a basement does not automatically trigger the need for a backwater valve. In many instances, plumbing fixtures in a basement are pumped vertically to a building drain above, and the pump outlet is already provided with a check valve and gate valve that protects against backflow. If the basement fixtures drain by gravity, backflow protection may be required.

### **WHAT SHOULD I DO IF I NEED A BACKWATER VALVE?**

A building needs backwater valve protection if the floor elevation of the lowest plumbing fixture in the building is **less than one foot** above the next upstream manhole cover of the public or private sewer system. If your building needs a backwater valve but you cannot locate a backwater valve in your building drain, you should contact a licensed plumbing company. A licensed plumbing company can provide the expertise to determine if a backwater valve is necessary by checking elevations. Plumbing companies are also licensed to install a backwater valve. Please note that a plumbing permit and inspections are **required** for the installation of backwater valves. Also, be aware that a backwater valve shall **not** be installed if backflow protection is not necessary. Please review the accompanying diagrams for clarification of the need for and use of backwater valves. If you have questions, call the City of San Jose Building Division at (408) 535-3555.

## HOW DO I PROTECT MY PROPERTY AGAINST BACKFLOW?

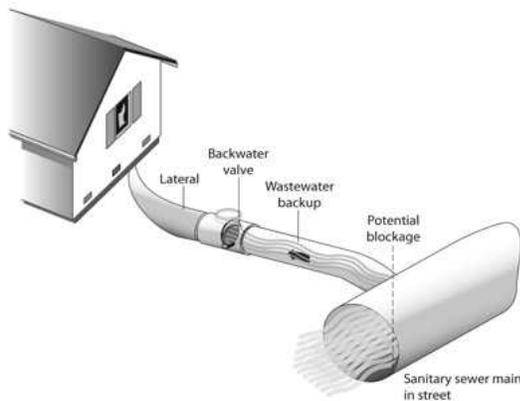
Property owners and tenants can prevent most backups and blockages by following these steps:

### 1. Do not pour grease down the drain

- Most blockages are caused by cooking grease that hardens in the sewer pipes and creates a plug. Do not pour cooking grease, fats or oils down the kitchen sink drain. Hot water will not melt fat away. Instead, scrape fats, oils and grease from plates and pans into a covered container and put it in the trash. If necessary, store it in the refrigerator until garbage collection day.
- Put food scraps in the garbage or compost them to reduce the amount of garbage in your cart. Use the garbage disposal sparingly.

### 2. Do not plant trees or large shrubs near sewer lines

- Roots grow toward breaks and cracks in search of a water source. If roots get inside the pipes, they often form “root balls” that clog the line.

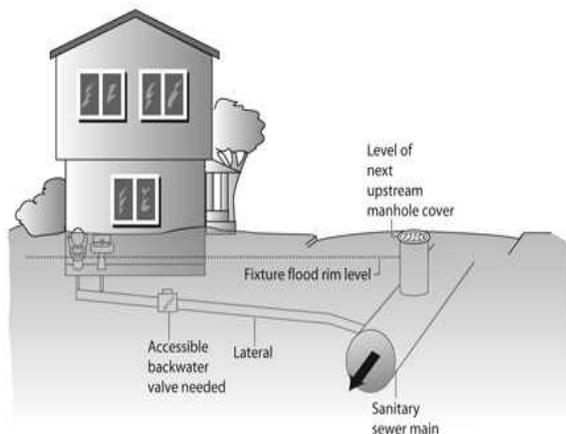


**Diagram 1 – Sewer Blockage**

*If a sewer blockage occurs in the sewer main shown above, a properly working backwater valve can help prevent a backflow of waste water into the property.*

### 3. Inspect “backwater valves” bi-annually

- A backwater valve is a plumbing fixture that acts as one-way stopper. It allows wastewater to leave your property, but prevents it from coming back in when there is a blockage in the sewer line (See Diagram 1).
- If your home has one, it will be located somewhere along the private sewer pipe or sewer lateral, (usually just outside the building) that extends from your home or building to the main city sewer line in the street. Property owners are responsible for maintaining adequate sewage flow to and through this lateral to the City’s sewer main.



**Diagram 2 – Elevations**

*If the manhole cover is less than one foot below the floor level of the building, an approved type of backwater valve is required.*

### 4. Install a backwater valve

- Homes built before the current plumbing codes may not have this device. Although most buildings in San José do not need a valve, yours may. To check, first locate the nearest upstream manhole cover for the public sewer.
- Where a fixture is installed on a floor level that is less than one foot above the next upstream manhole cover of the public or private sewer, serving such drainage piping shall be protected from backflow of sewage by installing an approved type of backwater value (See Diagram 2).

- A licensed plumber can help you determine elevations. If a valve is needed, the installation will require a City permit.
- As an accessory plumbing appurtenance a sewer relief valve may also be installed upstream of the backwater valve. **This sewer relief valve is not a required device and shall not be installed in lieu of the backwater valve.** See [www.sewersmart.org](http://www.sewersmart.org) to obtain a free backup prevention device.

## 5. Contact the City to report problems or seek advice

- To report sanitary sewer backups into dwellings or the street, call the Department of Transportation at (408)277-4373 at any hour. Staff is available day and night to check the main sewer line. If it is clear and flowing, but a blockage is in the lateral, the property owner will then need to call a plumber to clear the line.
- To help determine whether you need a backwater valve, contact your plumber.
- If you still need help, then please visit the Building Division's website [www.sanjoseca.gov/building/](http://www.sanjoseca.gov/building/), which provides information in English, Spanish and Vietnamese. On the right side of the page, select the special program labeled "New Backwater Valves". This site also provides additional information about a property owner's responsibilities regarding sanitary sewer laterals. For those without website access, please call (408)535-3555.

The City of San José maintains over 2,150 miles of sanitary sewer pipes that serve 250,000 residential and commercial connections in an area of 178 square miles. The City appreciates the assistance of citizens in helping maintain this extensive sanitary sewer system and looks forward to responding to any questions or concerns you may have.