

Conservation

Santa Rosa Water only performs fire flow testing when absolutely necessary. The test uses just enough water to accurately measure and ensure adequate fire protection.

Capturing Water Used During Fire Flow Testing

Testing the hydrant requires the water to run at a high flow rate, which makes it unfeasible to capture the water in tanker trucks. The water is directed to the storm drain.

Protecting the Environment

Flushed water channeled into storm drains leads to local creeks and waterways. For this reason, flushed water is dechlorinated to protect fish and other wildlife.

Water system flushing is regulated by the California Regional Water Quality Control Board's permit No. R1-2009-0050.

Requirements include:

- Dechlorination (Remove chlorine)
- Minimize sediment from entering the storm drain
- Managing flow to storm drains to minimize impact on the surrounding environment



Hydrant Flow Testing

SANTA ROSA WATER
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Santa Rosa's Water System

Santa Rosa Water provides water and sewer service to 53,000 customer accounts. Santa Rosa Water delivers approximately 7 billion gallons of water annually through over 615 miles of water mains. The water system includes 25 storage reservoirs which range in size from 100,000 to 2 million gallons. The reservoirs are all located on hillsides at specific levels to provide adequate water pressure and fire protection.

Why is Fire Flow and Hydrant Testing Important?

Fire flow tests are important for public safety. Fire flow tests are conducted to determine the rate of flow available at various locations for firefighting purposes.

In addition, new construction and retrofit projects typically require the installation of a fire suppression system. Santa Rosa Fire requires applicants to provide fire flow calculations for the proposed project to meet State of California Fire Code. If no flow test results are available for the project, the customer is required to pay a fee to Santa Rosa Water to conduct a Fire Flow Test.

Where Does Fire Flow Testing Occur?

Testing can occur at any public fire hydrant in our system. Testing can also occur on private fire hydrants. However, private fire hydrants are tested by private companies, and the City cannot guarantee the results or accuracy of testing done on private hydrants.



Fire Flow Test



Pitot Gage

How Do You Perform a Fire Flow Test?

Once a flow test has been requested and a hydrant designated, there are three readings that must be taken. Two hydrants – Residual (R) & Flow (F) - and two Utility System Operators (USO A & B) will be used to obtain our readings.

Hydrant (R) is used to record the static pressure per square inch (psi) reading and our residual psi reading. Hydrant (F), our (flow hydrant) will be used to obtain our pitot flow reading in psi. A pressure gauge is attached to Hydrant (R) and

the static psi is then obtained once the system has stabilized. Static psi refers to what the water distribution system rests at - at the given time of the test. Hydrant (F) will then be opened fully to obtain the pitot flow psi reading. The pitot flow reading will be converted to gallons per minute (gpm) which tells us how much water is flowing out of our 2 ½" opening in the hydrant, and will be used for the final calculation. Once hydrant (F) is fully open, our USO (A) will signal to the USO (B) and the residual psi and pitot flow numbers will be recorded simultaneously. The residual psi refers to the draw down that occurs at hydrant (R) while the demand of flow in the distribution system is for hydrant (F). Once these three readings have been achieved, they are entered into our mobile work order system, where the flow is calculated, uploaded and sent to our Engineering section for follow up with the customer.

How Much Water is Needed for Fire Flow Testing?

The test is run in the most efficient manner possible to achieve results and minimize water loss. On average, less than 1,000 gallons are used to perform a fire flow test, which is essential for protecting public safety by ensuring adequate fire protection.

Have Additional Questions about Flow Testing?

Please contact Santa Rosa Water at 707.543.4200 or email watereng@srcity.org