



SOUTH KING FIRE

31617 1st Ave S
Federal Way, WA 98003
Prevention: 253-946-7348
Email: prevention.web@southkingfire.org

UNDERGROUND FIRE LINE FLUSHING

FIRE PREVENTION GUIDELINES

SCOPE AND PURPOSE

To provide a policy and guidelines for underground fire line flushing within the City of Federal Way and the City of Des Moines service areas.

CODE AUTHORITY

International Fire Code.

PURPOSE

The purpose of an underground fire line flush is to verify that the underground fire line is free of foreign debris or obstructions. This process is crucial for the integrity of the fire protection system, and new installations must be verified in the presence of a fire code official.

SPECIAL PROVISIONS

Underground piping, from the water supply to the system riser, and lead-in connections to the system riser, including all hydrants, shall be completely flushed before the connection is made to downstream of the fire protection system piping. The flushing operation shall continue until water flow is verified to be clear of debris.

The minimum rate of flow shall be in accordance with NFPA 24 – Table 10.10.2.1.3. The velocity of approximately 10 ft/sec is used for the flow rates, as this velocity has proved to be sufficient for moving obstructive material out of the pipes. The velocity of approximately 15 ft/sec is established for the suction piping when a fire pump has been installed per NFPA 20.

Note: Where the flow rates established in **Table 10.10.2.1.3** below are not attainable, the maximum flow rate available to the system shall be acceptable.

Nominal Pipe Size (in.)	Flow Rate for 10 fps (GPM)	Flow Rate for 15 fps (GPM)
2	100	150
2 1/2	150	229
3	220	330
4	390	590
5	610	920
6	880	1,360
8	1,560	2,350
10	2,440	3,670
12	3,520	5,290

PLANNING AND NOTIFICATION

Provisions shall be made for properly disposing of water during flushing or testing. A flushing plan must be coordinated with the correct local water utility (***at least 2 weeks in advance***) of the proposed date and time of the flushing for proper notification and water disposal criteria. The following water utility districts are within South King Fire's service areas:



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1. [Lakehaven Water & Sewer District](#) – Development Engineering Section (Email) preferred DE@lakehaven.org or Telephone: 253-945-1580 or 253-945-1581.
2. [Highline Water District](#) – (Email) Jseibel@highlinewater.org, Jpantzke@highlinewater.org, or Telephone: 206-824-0375.
3. [Tacoma Water](#) – Telephone: 253-502-8207
4. [King County Water District 54](#) – Telephone: 206-824-1909

INSPECTION REQUESTS

Request fire inspections online at: <https://www.southkingfire.org/>. Click on the Double Axe "Construction, Operational, or Business License Inspections" icon and submit the fillable form. Monday and Friday inspections may NOT be available. Please schedule your inspection (***at least one week in advance***) for underground fire line flush inspections. The fire marshal's office will call you back and set up an agreed-upon time. If you need assistance with scheduling, call: 253-946-7348.