

FRUITLAND MUTUAL WATER COMPANY

P.O. Box 73759 ~ 4001 9th St. S.W.~ Puyallup, WA 98373 ~ (253) 848-5519

FIRE FLOW TESTS

Area Surveyed: 3601 9th ST SW Homewood Suites

Flow Test Conducted By: Ted, Ed

Date: 01/25/24

Pumps and Tanks Operating During Flow Test: 2A

System Consumption Rate During Test: low

Time of Day: 1:00pm

LOCATION	PRESSURE-LBS/SQ. IN.				DISCHARGE GPM			* DISTRICT
	STATIC	RESID.	PITOT	ORIFICE	OBSERVED	REC.	20 LBS.	
Hydrant east side building	52	51	20	2.5	754		4243	
			0				#DIV/0!	
			0				#DIV/0!	
			0				#DIV/0!	
			0				#DIV/0!	

Flow Formulas from Fair and Geyer-“Elements of Water Supply and Waste Water Disposal”.

$$Q_1 \text{ (GPM)} = 29.82cd^2 \sqrt{p}$$

(Using c = 0.9 and d = 2½”)

$$Q_1 = 167.74 \sqrt{p}$$

*DISTRICTS

- PB-Principal Business
- OB-Other Business
- SC-Shopping Center
- IND-Industrial
- RES-Residential
- INS-Institutional
- SR-Single Risk

$$Q_2 \text{ (GPM)} = Q_1 \cdot P_1/P_2 = Q_1 \sqrt{\frac{(P_s - 20)}{(P_s - P_r)}}$$

Where:

“Static” pressure-(P_s)-indicates normal pressure in main at time of test.

“Residual” pressure-(P_r)-indicates pressure in main during flow at hydrant (s).

“Pitot” pressure-(p)-indicates measured velocity head of stream at hydrant outlet.

“Observed” discharge-(Q₁)-shows flow computed from noted pressures.

“Discharged-20psi”-(Q₂)-is computed flow available for pumping engines.

“Recommended” discharge-(Rec.)-is the flow considered for fire insurance grading purposes.

Column headed “Orifice” shows number and size (inches) of outlets opened.

NOTE: Tests are taken to determine ability of the distribution system to deliver supply for fire use at designated residual pressures.

All comments and recommendations made by these Departments relate solely to Fire Insurance rating or grading considerations and other uses by these Departments. No representations or warranties of any kind are intended or made.