

# FIRE-FIGHTING FACILITIES. (WATER SUPPLY.)

QUEBEC, P.Q.

**Distribution.**—The average linear spacing of hydrants in the principal mercantile districts is 225 feet, and the area served by each hydrant is 32,000 square feet. In a representative residential district the average linear spacing is 360 feet, and the area served by each hydrant is 82,000 square feet. Of the 120 hydrants within the principal mercantile districts 101 have two 2½-inch outlets, 11 have three 2½-inch outlets, and 8 have four 2½-inch outlets.

**Use by Street Department and Others.**—Hydrants are used indiscriminately for filling sprinkler carts and by the several municipal departments; little damage is reported from such use.

**Fire Engine Water Supply.**—Is from the hydrants and also 5 underground tanks for "Upper Town," and from suitable approaches to the river for "Lower Town." Tanks are located as follows:

	Gallons Capacity.
1. Garden and Fabrique Streets, opposite the City Hall.....	120,000
2. At Good Shepherd Convent, St. Amable Street.....	70,000
3. At St. Louis and Parlor Streets.....	46,000
4. On the Esplanade.....	110,000
5. At the Chateau Frontenac.....	120,000

These tanks are filled by springs and the supply augmented from hydrants.

**Fire Flow Tests.**—In order to ascertain the amount of water which would be immediately available in case of a serious fire in the principal mercantile and residential districts, tests were made by laying a number of lines of hose with various sized nozzles. An automatic pressure recording gauge from which hydrant pressures were obtained was attached for a period of 24 hours to a hydrant in the immediate vicinity where test was being conducted. The details of each test are shown in Table No. 3; also by Charts A, B, C, D and E, taken from automatic pressure gauge above referred to. These Charts show the difference in pressure at the various levels where tests were made, variation in pressure during a 24-hour period, and also the extent to which pressures were reduced with streams flowing.

TABLE No. 3—HOSE LINE TESTS

Test No. 1.—Dambourges and St. Paul Streets, "Lower Town." See also Chart "A," page 11.

No. of Streams.	DIAMETER OF NOZZLES IN INCHES.	PRESSURE IN POUNDS PER SQUARE INCH.			Approximate Discharge in Gallons.	Diameter of Mains in Inches.
		Normal.	Running.	Nozzles.		
One	1.....	62	62	.....	.....	8.
Five	3 of 1½, 1 of 1½ and 1 of 1.....	62	60	.....	.....	8.
Seven	5 of 1½, 1 of 1½ and 1 of 1.....	62	58	.....	.....	8.
Nine	5 of 1½, 3 of 1½ and 1 of 1.....	62	56	.....	.....	8.
Ten	4 of 1½, 5 of 1½ and 1 of 1.....	62	54	1" = 30	2,080 per	8.
Eleven	6 of 1½, 4 of 1½ and 1 of 1.....	62	52	1½" = 26 to 28	minute, or	12.
Twelve	2 of 1, 4 of 1½ and 6 of 1.....	62	50	1½" = 24 to 26	2,995,200 per 24 hours.	12.

Test No. 2.—St. Valier and Caron Streets, "Lower Town." See also Chart "B," page 12.

No. of Streams.	DIAMETER OF NOZZLES IN INCHES.	PRESSURE IN POUNDS PER SQUARE INCH.			Approximate Discharge in Gallons.	Diameter of Mains in Inches.
		Normal	Running.	Nozzles.		
One	1½.....	87	86	.....	.....	8 of 12.
Five	3 of 1½ and 2 of 1½.....	87	85	.....	.....	"
Seven	3 of 1½, 2 of 1½ and 2 of 1.....	87	83	.....	.....	"
Nine	5 of 1½, 2 of 1½ and 2 of 1.....	87	82	1½" = 30 to 35	2,484 per	"
Ten	6 of 1½, 2 of 1½ and 2 of 1.....	87	81	1½" = 40 to 42	minute; or	"
Twelve	6 of 1½, 4 of 1½ and 2 of 1.....	87	77	1" = 47	3,576,960 per 24 hours.	"