

Water Flow Test Data Sheet

ALERT FIRE PROTECTION LLC

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Job Name: _____

Location: **423 N. STATE ST.**
LOCKPORT

Contract or District No: _____ Date: 5-24-22 Time: 10 ^{am}/pm

Remarks: _____

Witnessed By: PUBLIC WORKS

Static Pressure at Hydrant A (psi): 72 Residual Pressure at Hydrant A (psi): 60

Flow Hydrant	Hydrant Outlet Size	No. Outlets Flowing	Pitot Pressure	Outlet Coefficient	Theoretical Flow	Actual Flow
A	<u>2 1/2</u>	<u>1</u>	<u>50</u>	<u>.9</u>	<u>1318</u>	<u>1186</u>
B						
C						

Q (Flow) = $29.83 * C_d * D^2 * P^{1/2}$ with C_d = Outlet Coefficient, D = Outlet Diameter and P = Pitot Gage Pressure

Outlet Smooth and Rounded – $C_d = 0.9$ Outlet Square and Sharp – $C_d = 0.8$

Outlet Square and Projecting into Barrel – $C_d = 0.7$

THEORETICAL FLOW FROM HYDRANT OUTLETS			
Discharge Coefficient = 1.00			
Pitot Gage (psi)	Inside Diameter of Outlet		
	2 1/2"	4"	4 1/2"
1	186	477	604
2	264	675	854
3	323	827	1046
4	373	955	1208
5	417	1067	1351
6	457	1169	1480
7	493	1263	1598
8	527	1350	1709
9	559	1432	1812
10	590	1509	1910
11	618	1583	2003
12	646	1653	2093
13	672	1721	2178
14	698	1786	2260
15	722	1848	2340
16	746	1909	2416
17	769	1968	2491
18	791	2025	2562
19	813	2080	2633
20	834	2134	2701
22	874	2239	2833
24	913	2338	2959
26	951	2434	3080
28	987	2526	3196
30	1021	2614	3309

32	1055	2700	3417
34	1087	2783	3522
36	1119	2864	3624
38	1149	2942	3724
40	1179	3019	3820
42	1209	3093	3915
44	1237	3166	4007
46	1264	3237	4097
48	1292	3307	4185
50	1318	3375	4271
52	1344	3442	4356
54	1370	3507	4439
56	1395	3572	4520
58	1420	3635	4600
60	1444	3697	4679
62	1468	3758	4756
64	1491	3818	4832
66	1515	3877	4907
68	1537	3936	4981
70	1560	3993	5054
72	1582	4050	5126
74	1604	4106	5196
76	1625	4161	5266
78	1647	4215	5335
80	1668	4269	5403
82	1688	4322	5470
84	1708	4374	5536
86	1729	4426	5602
88	1749	4477	5667
90	1769	4528	5731