



**... Fire Protection by Computer Design**

DEAN AND ALLYN, INC.  
116 LEWISTON ROAD  
Your Street Address 2  
GRAY MAINE  
207 657 5646

Job Name : GINGER'S HOUSE  
Building :  
Location : 1000 WASHINGTON AVE PORTLAND MAINE  
System : ONE  
Contract : 1283  
Data File : GINGERS HOUSE.WXF

HYDRAULIC DESIGN INFORMATION SHEET

Name - GINGERS HOUSE Date - 7-27-15  
 Location - 1000 WASHINGTON AVE PORTLAND MAINE  
 Building - System No. - ONE  
 Contractor - DEAN AND ALLYN Contract No. - 1283  
 Calculated By - H. KING Drawing No. - 1 OF 1  
 Construction: (X) Combustible ( ) Non-Combustible Ceiling Height 8'  
 OCCUPANCY - RESIDENCE

S Type of Calculation: ( )NFPA 13 Residential ( )NFPA 13R (X)NFPA 13D  
 Y Number of Sprinklers Flowing: ( )1 (X)2 ( )4 ( )  
 S ( )Other  
 T ( )Specific Ruling Made by Date  
 E  
 M Listed Flow at Start Point - 19 Gpm System Type  
 Listed Pres. at Start Point - 18.7 Psi (X) Wet ( ) Dry  
 D MAXIMUM LISTED SPACING 18 x 18 ( ) Deluge ( ) PreAction  
 E Domestic Flow Added - Gpm Sprinkler or Nozzle  
 S Additional Flow Added - Gpm Make RELIABLE Model F1RES  
 I Elevation at Highest Outlet - 32 Feet Size K-Factor 4.4  
 G Note:CUSHION IS 8.8 PSI Temperature Rating 155  
 N

Calculation Gpm Required 32.1 Psi Required 44.0 At Test  
 Summary C-Factor Used: Overhead 120 Underground 120

W Water Flow Test: Pump Data: Tank or Reservoir:  
 A Date of Test - Rated Cap. 50 Cap.  
 T Time of Test - @ Psi 50 Elev.  
 E Static (Psi) - 55 Elev. 0  
 R Residual (Psi) - 50 Other Well  
 Flow (Gpm) - 50 Proof Flow Gpm  
 S Elevation - 0

P Location:  
 P  
 L Source of Information:  
 Y

# Final Calculations - Hazen-Williams

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Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv.	Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	*****	Notes	*****
1 to 10	19.03 19.03	1.049 120.0 0.1187	T	5.0 0.0 0.0	1.000 5.000 6.000	18.700 0.0 0.712			K Factor = 4.40	
	0.0 19.03						19.412		K Factor = 4.32	
2 to 10	13.08 13.08	1.049 120.0 0.0593	T	5.0 0.0 0.0	2.000 5.000 7.000	18.997 0.0 0.415			K Factor = 3.00	
10 to 11	19.02 32.1	1.049 120.0 0.3123	2E	4.0 0.0 0.0	7.000 4.000 11.000	19.412 0.0 3.435				Vel = 11.92
11 to 12	0.0 32.1	1.61 120.0 0.0388	4E	16.0 0.0 0.0	5.300 16.000 21.300	22.847 0.0 0.826				Vel = 5.06
12 to 13	0.0 32.1	1.61 120.0 0.0388	E T	4.0 8.0 0.0	4.000 12.000 16.000	23.673 3.465 0.620				Vel = 5.06
13 to 15	0.0 32.1	1.61 120.0 0.0388	E T	4.0 8.0 0.0	17.000 12.000 29.000	27.758 3.465 1.124				Vel = 5.06
15 to 16	0.0 32.1	1.61 120.0 0.0388	E	4.0 0.0 0.0	8.000 4.000 12.000	32.347 0.0 0.466				Vel = 5.06
16 to 17	0.0 32.1	1.61 120.0 0.0388	3E T	12.0 8.0 0.0	14.000 20.000 34.000	32.813 0.0 1.318				Vel = 5.06
17 to 18	0.0 32.1	1.61 120.0 0.0388	E	4.0 0.0 0.0	8.000 4.000 12.000	34.131 3.465 0.465				Vel = 5.06
18 to TR	0.0 32.1	1.61 120.0 0.0388	2E 2T	8.0 16.0 0.0	13.000 24.000 37.000	38.061 0.0 1.435				Vel = 5.06
TR to FF	0.0 32.1	1.61 120.0 0.0388	S	9.0 0.0 0.0	8.000 9.000 17.000	39.496 3.465 0.659				Vel = 5.06
FF to PMP	0.0 32.1	1.61 120.0 0.0387	2E	8.0 0.0 0.0	3.000 8.000 11.000	43.620 0.0 0.426				Vel = 5.06
	0.0 32.10						44.046		K Factor = 4.84	

# Pressure / Flow Summary - STANDARD

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Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
1	32.0	4.4	18.7	na	19.03	0.05	324	18.7
2	32.0	3	19.0	na	13.08	0.05	256	9.1
10	32.0		19.41	na				
11	32.0		22.85	na				
12	32.0		23.67	na				
13	24.0		27.76	na				
15	16.0		32.35	na				
16	16.0		32.81	na				
17	16.0		34.13	na				
18	8.0		38.06	na				
TR	8.0		39.5	na				
FF	0.0		43.62	na				
PMP	0.0		44.05	na				

The maximum velocity is 11.92 and it occurs in the pipe between nodes 10 and 11

# Water Supply Curve C

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City Water Supply:  
C1 - Static Pressure : 55  
C2 - Residual Pressure: 50  
C2 - Residual Flow : 50

Demand:  
D1 - Elevation : 13.859  
D2 - System Flow : 32.103  
D2 - System Pressure : 44.046  
Hose ( Demand ) : \_\_\_\_\_  
D3 - System Demand : 32.103  
Safety Margin : 8.751

