



... Fire Protection by Computer Design

DEAN AND ALLYN, INC.
116 LEWISTON ROAD
GRAY MAINE
207 657 5646

Job Name : STENZEL WALSH HOUSE
Building :
Location : FREDRICK AVE. PEAKS ISLAND-PORTLAND MAINE
System : ONE
Contract : C1405
Data File : STENZEL-WALSH.WXF

HYDRAULIC DESIGN INFORMATION SHEET

Name - STENZEL WALSH HOUSE Date - 1-21-17
Location - FREDRICK AVE. PEAKS ISLAND-PORTLAND MAINE
Building - System No. - ONE
Contractor - DEAN AND ALLYN Contract No. - C1405
Calculated By - H. KING Drawing No. - 1 OF 1
Construction: (X) Combustible () Non-Combustible Ceiling Height 8'
OCCUPANCY - NEW 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 - 17 Gpm System Type
Listed Pres. at Start Point - 12 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 FRC49
I Elevation at Highest Outlet - 20' Feet Size 1/2" X 7/16" K-Factor 4.9
G Note:CUSHION 3.8PSI Temperature Rating 165
N

Calculation Gpm Required 34.9 Psi Required 48.6 PUMP
Summary C-Factor Used: Overhead 120 Underground 120

W Water Flow Test: Pump Data: Tank or Reservoir:
A Date of Test - Rated Cap. Cap.
T Time of Test - @ Psi Elev.
E Static (Psi) - 55 Elev.
R Residual (Psi) - 50 Other Well
Flow (Gpm) - 50 Proof Flow Gpm
S Elevation - 1

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	*****
10 to 20	16.97 16.97	1.049 120.0 0.0960	E	2.0 0.0 0.0	19.000 2.000 21.000	12.000 0.0 2.017			K Factor = 4.90	
	0.0 16.97						14.017		K Factor = 4.53	
11 to 20	17.92 17.92	1.049 120.0 0.1062	T	5.0 0.0 0.0	1.000 5.000 6.000	13.380 0.0 0.637			K Factor = 4.90	
20 to 21	16.98 34.9	1.049 120.0 0.3645	2E	4.0 0.0 0.0	12.500 4.000 16.500	14.017 0.866 6.014			Vel = 12.96	
21 to 22	0.0 34.9	1.049 120.0 0.3645	T	5.0 0.0 0.0	13.500 5.000 18.500	20.897 0.0 6.743			Vel = 12.96	
22 to 23	0.0 34.9	1.049 120.0 0.3644	T E	5.0 2.0 0.0	4.300 7.000 11.300	27.640 -0.433 4.118			Vel = 12.96	
23 to 24	0.0 34.9	1.049 120.0 0.3645	E	2.0 0.0 0.0	14.000 2.000 16.000	31.325 6.063 5.832			Vel = 12.96	
24 to 25	0.0 34.9	1.38 120.0 0.0958	T	6.0 0.0 0.0	6.500 6.000 12.500	43.220 0.0 1.198			Vel = 7.49	
25 to TR	0.0 34.9	1.38 120.0 0.0958	E	3.0 0.0 0.0	6.300 3.000 9.300	44.418 0.0 0.891			Vel = 7.49	
TR to FF	0.0 34.9	1.38 120.0 0.0959	S	7.0 0.0 0.0	4.000 7.000 11.000	45.309 1.732 1.055			Vel = 7.49	
FF to PMP	0.0 34.9	1.61 120.0 0.0453	2E	8.0 0.0 0.0	3.000 8.000 11.000	48.096 0.0 0.498			Vel = 5.50	
	0.0 34.90						48.594		K Factor = 5.01	

Pressure / Flow Summary - STANDARD

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Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
10	20.0	4.9	12.0	na	16.97	0.05	324	12.0
11	20.0	4.9	13.38	na	17.92	0.05	324	12.0
20	20.0		14.02	na				
21	18.0		20.9	na				
22	18.0		27.64	na				
23	19.0		31.32	na				
24	5.0		43.22	na				
25	5.0		44.42	na				
TR	5.0		45.31	na				
FF	1.0		48.1	na				
PMP	1.0		48.59	na				

The maximum velocity is 12.96 and it occurs in the pipe between nodes 20 and 21

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 : 8.229
D2 - System Flow : 34.898
D2 - System Pressure : 48.594
Hose (Demand) : _____
D3 - System Demand : 34.898
Safety Margin : 3.836

