



... Fire Protection by Computer Design

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

Job Name : 114 EMERY STREET
Building :
Location : 114 EMERY STREET PORTLAND MAINE
System : ONE
Contract : 161336
Data File : EMERY STREET.WXF

Hydraulic Design Information Sheet

Name - 114 EMERY STREET Date - 4-11-16
 Location - 114 EMERY STREET PORTLAND MAINE
 Building - System No. - ONE
 Contractor - DEAN AND ALLYN, INC. Contract No. - 161336
 Calculated By - H. KING Drawing No. - 1 OF 1
 Construction: (X) Combustible () Non-Combustible Ceiling Height - 9'
 Occupancy - RESIDENCE

S () NFPA 13 () Lt. Haz. Ord.Haz.Gp. () 1 () 2 () 3 () Ex.Haz.
 Y () NFPA 231 () NFPA 231C () Figure Curve

S Other NFPA 13D
 T Specific Ruling

Made By Date

M	Area of Sprinkler Operation	- 2 HEADS	System Type	Sprinkler/Nozzle
	Density	- .05	(X) Wet	Make RELIABLE
D	Area Per Sprinkler	- 144	() Dry	Model FIRES44
E	Elevation at Highest Outlet	- 16	() Deluge	Size 7/16"
S	Hose Allowance - Inside	-	() Preaction	K-Factor 4.4
I	Rack Sprinkler Allowance	-	() Other	Temp.Rat.155
G	Hose Allowance - Outside	-		

N Note CUSHION 31.1 PSI

Calculation Flow Required - 24.4 Press Required - 22.5
 Summary C-Factor Used: 120 Overhead 140 Underground

W	Water Flow Test:	Pump Data:	Tank or Reservoir:
A	Date of Test - 4-11-16		Cap. -
T	Time of Test -	Rated Cap.- 50	Elev.-
E	Static Press - 55	@ Press - 50	
R	Residual Press - 50	Elev. - 0'	Well
	Flow - 50		Proof Flow
S	Elevation - 0		

U Location -

P
 L Source of Information -
 Y

C	Commodity	Class	Location
O	Storage Ht.	Area	Aisle W.
M	Storage Method:	%	Palletized % Rack
	() Single Row	() Conven. Pallet	() Auto. Storage () Encap.
S	() Double Row	() Slave Pallet	() Solid Shelf () Non
T	() Mult. Row		() Open Shelf

R K Flue Spacing Clearance:Storage to Ceiling
 A Longitudinal Transverse

G
 E Horizontal Barriers Provided:

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 11	12.05 12.05	1.049 120.0 0.0509	E	2.0 0.0 0.0	8.000 2.000 10.000	7.500 3.465 0.509			K Factor = 4.40	
	0.0 12.05						11.474		K Factor = 3.56	
2 to 12	12.32 12.32	1.049 120.0 0.0531	E	2.0 0.0 0.0	8.000 2.000 10.000	7.839 3.465 0.531			K Factor = 4.40	
	0.0 12.32						11.835		K Factor = 3.58	
11 to 13	12.05 12.05	1.049 120.0 0.0510	T	5.0 0.0 0.0	7.800 5.000 12.800	11.474 0.0 0.653				Vel = 4.47
	0.0 12.05						12.127		K Factor = 3.46	
12 to 13	12.32 12.32	1.049 120.0 0.0531	T	5.0 0.0 0.0	0.500 5.000 5.500	11.835 0.0 0.292				Vel = 4.57
13 to TR	12.05 24.37	1.049 120.0 0.1876	2E	4.0 0.0 0.0	16.000 4.000 20.000	12.127 0.0 3.751				Vel = 9.05
TR to PUMP	0.0 24.37	1.049 120.0 0.1875	S 2E	5.0 4.0 0.0	8.000 9.000 17.000	15.878 3.465 3.187				Vel = 9.05
	0.0 24.37						22.530		K Factor = 5.13	

Pressure / Flow Summary - STANDARD

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Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
1	16.0	4.4	7.5	na	12.05	0.05	144	7.5
2	16.0	4.4	7.84	na	12.32	0.05	144	7.5
11	8.0		11.47	na				
12	8.0		11.83	na				
13	8.0		12.13	na				
TR	8.0		15.88	na				
PUMP	0.0		22.53	na				

The maximum velocity is 9.05 and it occurs in the pipe between nodes 13 and TR

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 : 6.930
D2 - System Flow : 24.369
D2 - System Pressure : 22.530
Hose (Demand) : _____
D3 - System Demand : 24.369
Safety Margin : 31.147

