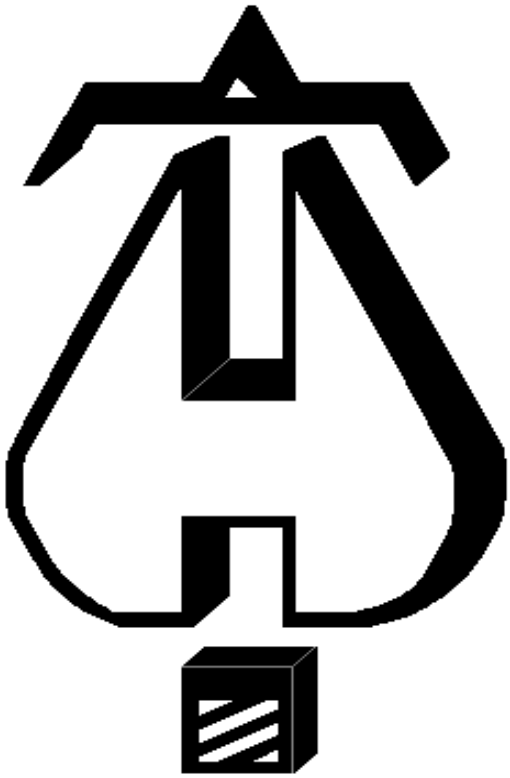


. . . Fire Protection by Computer Design

ACCENDO FIRE PROTECTION LLC
38 ADDITON RD
GREENE, MAINE 04236
207-946-6182

Job Name	:	CPORT STANDPIPE
Drawing	:	STEEL AND CONCRETE
Location	:	PORTLAND, MAINE
Remote Area	:	STANDPIPE
Contract	:	1020
Data File	:	CPORT STANDPIPE.WXF

HYDRAULIC DESIGN INFORMATION SHEET

Name - CPORT CCREDIT UNION STANDPIPE Date - 1/8/18
Location - PORTLAND, MAINE
Building - STEEL AND CONCRETE System No. - STANDPIPE
Contractor - AFP Contract No. - 1020
Calculated By - JWD Drawing No. - 2 OF 2
Occupancy - LIGHT HAZARD

SYSTEM DESIGN

(X)NFPA 14 Number of Standpipes (X)1 ( )2 ( )3 ( )4 ( )
( )Other
( )Specific Ruling Made by Date

Flow at Top Most Outlet	- 250	Gpm	System Type	
Pres. at Top Most Outlet	- 100	Psi	(X) Wet	( ) Dry
Flow For Ea. Additional Standpipe	- 250	Gpm		
Total Additional Flow	-	Gpm		
Elevation at Highest Outlet	- 149	Feet		

Hose Valve Connection ( )1 1/2" (X)2 1/2"
Class Service (X)I ( )II ( )III
Note:

Calculation Summary: Gpm Required 500 Psi Required 130.08 At NODE FDC
C-Factor Used: Overhead 120 Underground 120

WATER SUPPLY

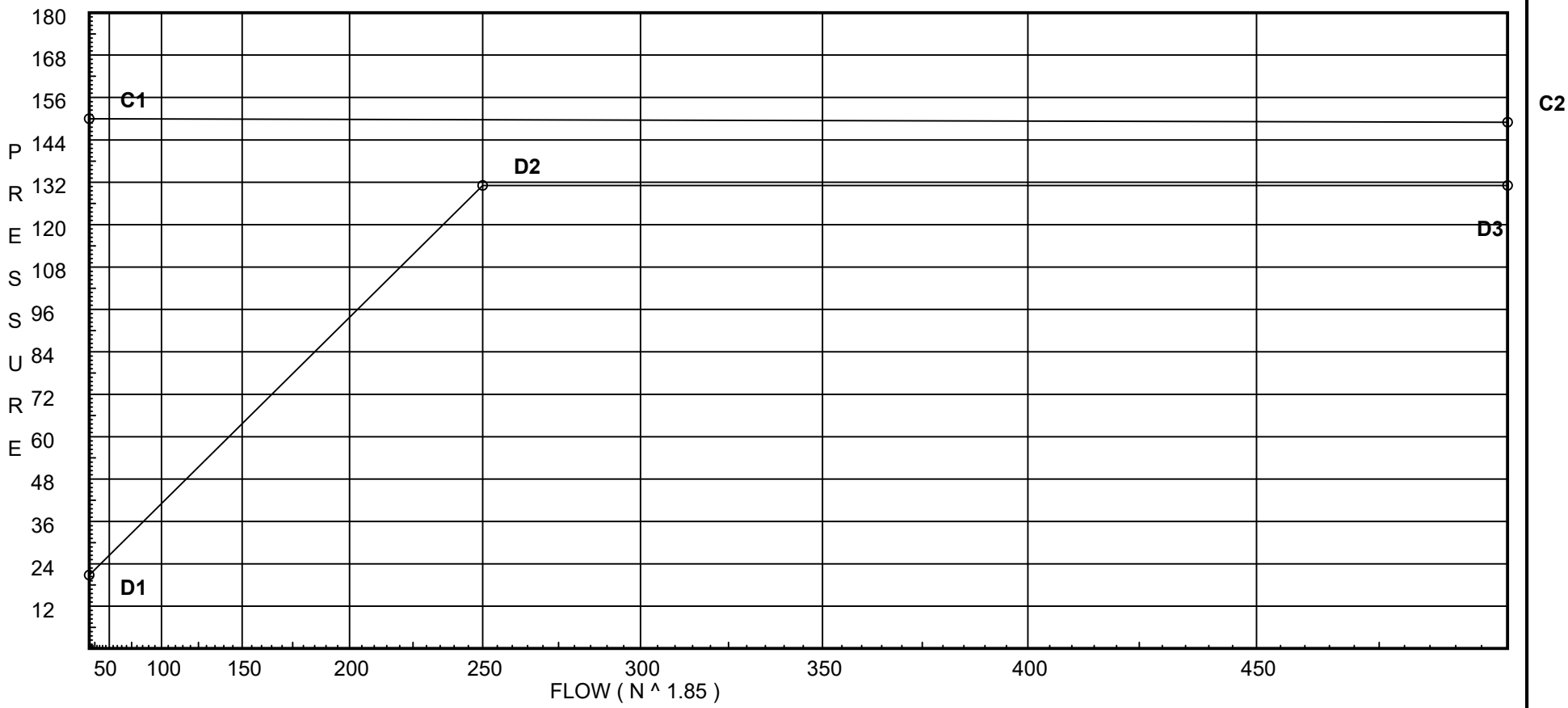
Water Flow Test:	Pump Data:	Tank or Reservoir:
Date of Test - 1/5/18		Cap.
Time of Test - N/A	Rated Cap.	Elev.
Static (Psi) - 150	@ Psi	
Residual (Psi) - 149	Elev.	Well
Flow (Gpm) - 500		Proof Flow Gpm
Elevation - 100		

Location: FDC LOCATED ON INDIA STREET SIDE OF BUILDING

Source of Information: PORTLAND FIRE DEPARTMENT PUMPER TRUCK

City Water Supply:
- C1 - Static Pressure : 150
- C2 - Residual Pressure: 149
- C2 - Residual Flow : 500

Demand:
- D1 - Elevation : 20.789
- D2 - System Flow : 250
- D2 - System Pressure : 131.086
- Hose (Demand) : 250
- D3 - System Demand : 500
- Safety Margin : 17.914



Fittings Used Summary

Fitting Legend

Abbrev.	Name	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6	8	10	12	14	16	18	20	24
B	NFPA 13 Butterfly Valve	0	0	0	0	0	6	7	10	0	12	9	10	12	19	21	0	0	0	0	0
G	NFPA 13 Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
I	90' Grvd-Vic Elbow #10	0	0	2	3	4	3.5	6	5	8	7	8.5	10	13	17	20	23	25	33	36	40
L	NFPA 13 Long Turn Elbow	0.5	1	2	2	2	3	4	5	5	6	8	9	13	16	18	24	27	30	34	40
S	NFPA 13 Swing Check	0	0	5	7	9	11	14	16	19	22	27	32	45	55	65					
T	NFPA 13 90' Flow thru Tee	3	4	5	6	8	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121

Units Summary

Diameter Units	Inches
Length Units	Feet
Flow Units	US Gallons per Minute
Pressure Units	Pounds per Square Inch

Note: Fitting Legend provides equivalent pipe lengths for fittings types of various diameters. Equivalent lengths shown are standard for actual diameters of Sched 40 pipe and CFactors of 120 except as noted with *. The fittings marked with a * show equivalent lengths values supplied by manufacturers based on specific pipe diameters and CFactors and they require no adjustment. All values for fittings not marked with a * will be adjusted in the calculation for CFactors of other than 120 and diameters other than Sched 40 per NFPA.

Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
SPRIG	0.0		100.0	na	250.0			
100	149.0		100.0	na	250.0			
102	141.0		104.42	na	250.0			
101	141.0		106.32	na				
103	132.0		111.17	na				
FDC	101.0		131.09	na				

The maximum velocity is 16.75 and it occurs in the pipe between nodes 100 and 101

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqv.	Ln.	Pipe Ftng's Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
SPRIG	0	H250	0.0	2.5	B	7.0	0.250	120	100.000	
to					T	12.0	19.000		0.0	
UP	0		0.0	2.469		0.0	19.250	0	0.0	Vel = 0
			0.0							
UP			0.0						100.000	K Factor = 0
100	149	+ 250.00	250.00	2.5	G	1.0	0.250	120	100.000	
to					T	12.0	13.000		3.465	
101	141		250.0	2.469		0.0	13.250	0.2154	2.854	Vel = 16.75
			0.0							
101			250.00						106.319	K Factor = 24.25
102	141	+ 250.00	250.00	2.5	G	1.0	0.250	120	104.420	
to					T	12.0	13.000		3.898	
103	132		250.0	2.469		0.0	13.250	0.2154	2.854	Vel = 16.75
			0.0							
103			250.00						111.172	K Factor = 23.71
101	141		250.00	4	2I	18.434	18.420	120	106.319	
to					T	26.334	44.768		3.898	
103	132		250.0	4.26		0.0	63.188	0.0151	0.955	Vel = 5.63
103	132		250.00	4	L	7.9	40.000	120	111.172	
to					T	26.334	79.002		13.426	
FDC	101		500.0	4.26	B	15.8	119.002	0.0545	6.488	Vel = 11.25
					S	28.968				
			0.0							
FDC			500.00						131.086	K Factor = 43.67