DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING PERMIT

This is to certify that DANA FISHER LLC

Located At 231 YORK ST

Job ID: 2011-05-1049-FAFS

CBL: 044 - - E - 003 - 001 - - - - -

has permission to install a supervised, automatic sprinkler system

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statues of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of the buildings and structures, and of the application on file in the department.

Notification of inspection and written permission procured before this building or part thereof is lathed or otherwise closed-in. 48 HOUR NOTICE IS REQUIRED.	A final inspection must be completed by owner before this building or part thereof is occupied. If a certificate of occupancy is required, it must be

58 5/16/11

Fire Prevention Officer **Code Enforcement Officer / Plan Reviewer**

THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY

PENALTY FOR REMOVING THIS CARD

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

or email: buildinginspections@portlandmaine.gov

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the city of Portland Inspections Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months. If the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue.**

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OF CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCU0PIED.

Director of Planning and Urban Development
Penny St. Louis

Job ID: 2011-05-1049-FAFS **Located At:** 231 YORK ST **CBL:** 044 - - E - 003 - 001 - - - - -

Conditions of Approval:

Fire

The sprinkler system shall be installed in accordance with NFPA 13.

Sprinkler protection shall be maintained. Where the system is to be shut down for maintenance or repair, the system shall be checked at the end of each day to insure the system has been placed back in service.

Fire department connection type and location shall be approved in writing by fire prevention bureau. The Fire Department will require Knox locking caps on all Fire Department Connections on the exterior of the building.

System acceptance and commissioning must be coordinated with alarm and suppression system contractors and the Fire Department. Call 874-8703 to schedule.

Installation of a sprinkler or fire alarm system requires a Knox Box to be installed per city ordinance.

This sprinkler system must be supervised by central station.

The water flow alarm shall be located over the FDC. The required manual pull station shall be located at the front exit from the restaurant.

A separate Fire Alarm Permit is required.

The fire alarm system shall comply with the City of Portland Standard for Signaling Systems for the Protection of Life and Property. All fire alarm installation and servicing companies shall have a Certificate of Fitness from the Fire Department.

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, FAX: (207) 8716

Job No:	Date Applied:	CBL:	
2011-05-1049-FAFS	**5/5/2011**	**044 - - E - 003 - 001 - - - - -**	
Location of Construction: **231 YORK ST**	Owner Name: **DANA FISHER LLC**	Owner Address: **PO BOX 169 PORTLAND, ME - MAINE 04112**	Phone:
Business Name:	Contractor Name: **Ed Poulin – High Tech Fire Protection**	Contractor Address: **84 Hackett Mills RD Minot ME 04258**	Phone: **(207) 998-2551**
Lessee/Buyer's Name:	Phone:	Permit Type: **FIRE SYS WB - Fire Suppression Water Based**	Zone: **B-1**
Past Use: Restaurant	Proposed Use: Restaurant – water-based fire suppression system	Cost of Work: **22000.00**	CEO District:
		Fire Dept: 1 Approved w/conditions ___ Denied ___ N/A Signature: BJandal (58)	Inspection: Use Group. Type: Signature:
Proposed Project Description: **231 York St. water based fire suppression system**		Pedestrian Activities District (P.A.D.)	

Permit Taken By:	**Zoning Approval**		
	Special Zone or Reviews	**Zoning Appeal**	**Historic Preservation**
	___ Shoreland ___ Wetlands ___ Flood Zone ___ Subdivision ___ Site Plan __ Maj __Min __ MM Date: OK 5/13/11 ABM	___ Variance ___ Miscellaneous ___ Conditional Use ___ Interpretation ___ Approved ___ Denied Date:	✓ Not in Dist or Landmark ___ Does not Require Review ___ Requires Review ___ Approved ___ Approved w/Conditions ___ Denied Date: ABM

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building Permits do not include plumbing, septic or electrial work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False informatin may invalidate a building permit and stop all work.

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the appication is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT ADDRESS DATE PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE DATE PHON

5/5/11

Job Summary Report
Job ID: 2011-05-1049-FAFS

Job Type:	Fire Alarm / Suppression	**Job Description:**	231 York	**Job Year:**	2011
Building Job Status Code:	Initiate Plan Review	**Pin Value:**	1423	**Tenant Name:**	
Job Application Date:		**Public Building Flag:**	N	**Tenant Number:**	
Estimated Value:	22,000	**Square Footage:**			
Related Parties:		FISHER DANA		*Property Owner*	
		High Tech Fire - ED Poulin RMS#515		*SPRINKLER CONTRACTOR*	

Job Charges

Fee Code Description	Charge Amount	Permit Charge Adjustment	Net Charge Amount	Payment Date	Receipt Number	Payment Amount	Payment Adjustment Amount	Net Payment Amount	Outstanding Balance

Location ID: 6574

Location Details

Alternate Id	Parcel Number	Census Tract	GIS X	GIS Y	GIS Z	GIS Reference	Longitude	Latitude
O09915	044 E 003 001		M				-70.261306	43.648073

Location Type	Subdivision Code	Subdivision Sub Code	Related Persons	Address(es)
1				231 YORK STREET WEST

Location Use Code	Variance Code	Use Zone Code	Fire Zone Code	Inside Outside Code	District Code	General Location Code	Inspection Area Code	Jurisdiction Code
RETAIL & PERSONAL SERVICE		NOT APPLICABLE B-1					DISTRICT 3	WEST END

Structure Details

Structure: Bar/ Lounge

Occupancy Type Code:

Structure Type Code	Structure Status Type	Square Footage	Estimated Value	Address
Stores & Customer Services (Mercantile)	0			231 YORK STREET WEST

Longitude	Latitude	GIS X	GIS Y	GIS Z	GIS Reference

User Defined Property	Value

Permit #: 20113484

Permit Data

Location Id	Structure Description	Permit Status	Permit Description	Issue Date	Reissue Date	Expiration Date
6574	Bar/ Lounge	Initialized	Install water based fire system			

Inspection Details

Inspection Id	Inspection Type	Inspection Result Status	Inspection Status Date	Scheduled Start Timestamp	Result Status Date	Final Inspection Flag

Fees Details

Fee Code Description	Charge Amount	Permit Charge Adjustment	Permit Charge Adj Remark	Payment Date	Receipt Number	Payment Amount	Payment Adjustment Amount	Payment Adj Comment

Water-Based Fire Suppression System Permit

If you or the property owner owes real estate or property taxes or user charges on any property within the city, payment arrangements must be made before permits of any kind are accepted.

Installation address: 231 York Street CBL: _____

Exact location: (within structure) Entire Structure

Type of occupancy(s) (NFPA & ICC): Assembly and Office

Building owner: _____

Managing Supervisor (RMS): Edward M. Poulin License No: 515

Supervisor phone: (207) 998-2551 E-mail: EPoulin@fairpoint.net

Installing contractor: High Tech Fire Protection License No: 102

Contractor phone: (207) 998-2551 E-mail: htfp@fairpoint.net

The suppression work to be done will be: New: (•) Renovation: ( ) Addition to existing system: ( )

This is an amendment to an existing permit: Yes: ( ) NO: (•) Permit no: _____

NFPA Standard this system is designed to: NFPA 13 Edition: 2007

*Non-NFPA systems are not approved for use within the City of Portland.

Download a new copy of this document from www.portlandmaine.gov/fire for every submittal. Attach all working documents and complete approved submittals as may be required by the State Fire Marshal's Office on electronic PDF's in addition to full sized plans.

Contractor shall verify location and type of all FDCs shall be approved in writing by the Fire Prevention Bureau.

COST OF WORK: $22,000

PERMIT FEE: $240.00

($10 PER $1,000 + $30 FOR THE FIRST $1,000)

RECEIVED

Submit all information to the Building Inspections Department, 389 Congress Street, Room 315, Portland, Maine 04101.

Prior to acceptance of any fire protection system, a complete commissioning and acceptance test must be coordinated with all fire system contractors and the Fire Department, and proper documentation of such test(s) provided.

All installation(s) must comply with NFPA and the Fire Department Technical Standard(s).

Check # 17565

Applicant signature: _____ Date: 5/3/2011

* State Log #: 211130 ; Permit #9481

. . . Fire Protection by Computer Design

High Tech Fire Protection
84 Hackett Mills Road
P.O. Box 156
Minot, Maine 04258-0156
998-2551

Job Name	:	First Floor Kitchen Calc.
Building	:	231 York Street
Location	:	231 York Street
System	:	NFPA-13
Contract	:	031511-2
Data File	:	First Floor Kitchen Calc.wxf

Hydraulic Design Information Sheet

Name - First Floor Kitchen Calc. Date - 4/19/2011
Location - 231 York Street
Building - 231 York Street System No. - NFPA-13
Contractor - High Tech Fire Protection Contract No. - 031511-2
Calculated By - Jeremy Foss Drawing No. - FP-1.1
Construction: (X) Combustible ( ) Non-Combustible Ceiling Height - 8'-11"
Occupancy - Commercial Kitchen

SYSTEM DESIGN

(X) NFPA 13 ( ) Lt. Haz. Ord.Haz.Gp. (X) 1 ( ) 2 ( ) 3 ( ) Ex.Haz.
( ) NFPA 231 ( ) NFPA 231C ( ) Figure Curve
Other
Specific Ruling Made By Date

Area of Sprinkler Operation - 800	System Type	Sprinkler/Nozzle
Density - .15	(X) Wet	Make Globe
Area Per Sprinkler - 130	( ) Dry	Model GL5601
Elevation at Highest Outlet - 22	( ) Deluge	Size 1/2"
Hose Allowance - Inside -	( ) Preaction	K-Factor 5.6
Rack Sprinkler Allowance -	( ) Other	Temp.Rat.155
Hose Allowance - Outside - 250		

Note

Calculation Summary: Flow Required - 506 Press Required - 61; C-Factor Used: 120 Overhead 140 Underground

WATER SUPPLY

Water Flow Test:	Pump Data:	Tank or Reservoir:
Date of Test - 5/26/2004		Cap. -
Time of Test -	Rated Cap.-	Elev.-
Static Press - 77	@ Press -	
Residual Press - 71	Elev. -	Well
Flow - 1383		Proof Flow
Elevation - 8		

Location - Test Hydrant Located on Brackett Street 20' from Project Site

Source of Information - Portland Water District

COMMODITY STORAGE

Commodity Class Location
Storage Ht. Area Aisle W.
Storage Method: Solid Piled % Palletized % Rack

( ) Single Row	( ) Conven. Pallet	( ) Auto. Storage	( ) Encap.
( ) Double Row	( ) Slave Pallet	( ) Solid Shelf	( ) Non
( ) Mult. Row		( ) Open Shelf	

RACK STORAGE

Flue Spacing Clearance:Storage to Ceiling
Longitudinal Transverse

Horizontal Barriers Provided:

Water Supply Curve (C)

High Tech Fire Protection
First Floor Kitchen Calc.

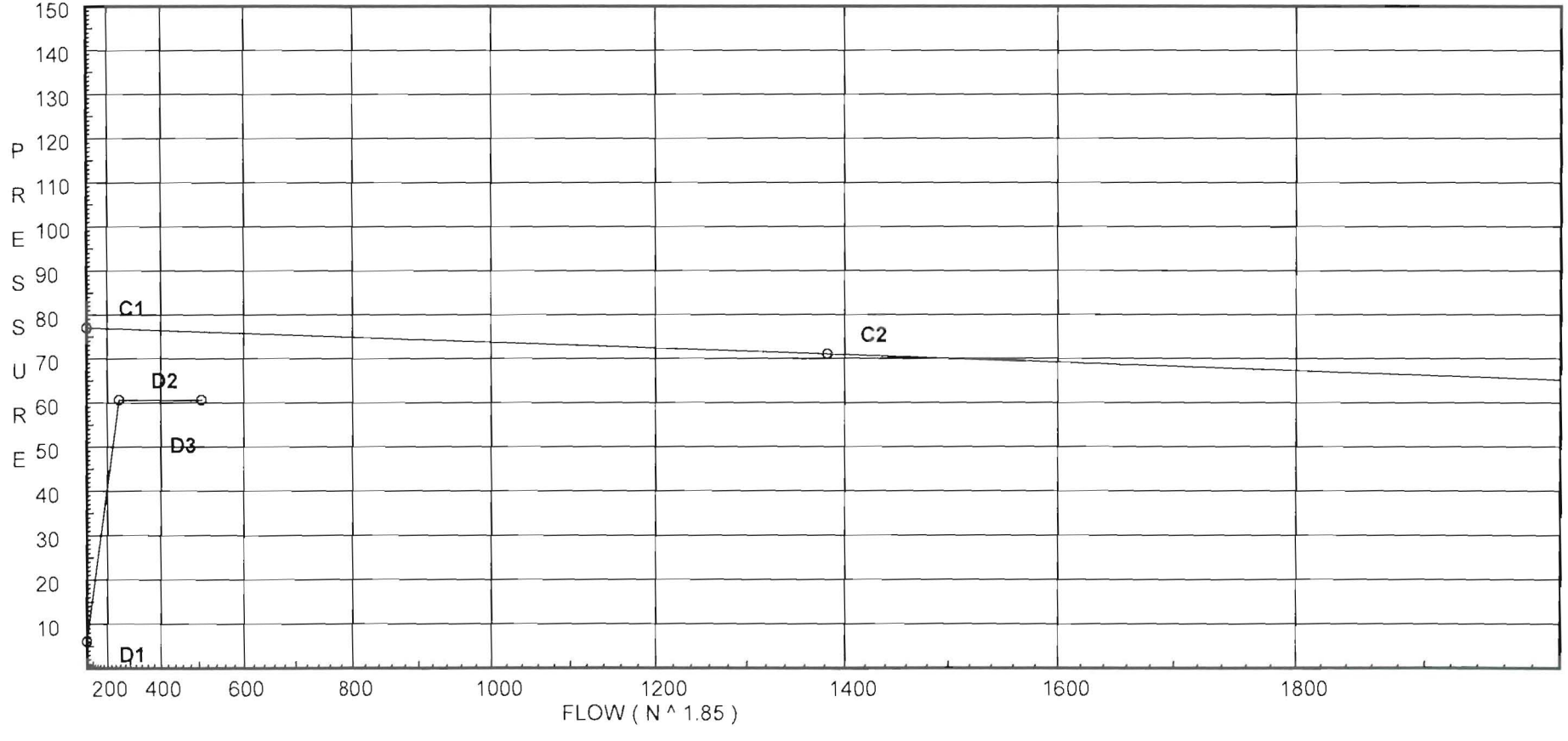
Date 4/19/2011

City Water Supply:

C1 - Static Pressure	77
C2 - Residual Pressure:	71
C2 - Residual Flow	1383

Demand:

D1 - Elevation	6.063
D2 - System Flow	255.679
D2 - System Pressure	60.597
Hose (Adj City)	
Hose (Demand)	250
D3 - System Demand	505.679
Safety Margin	15.470



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
E	90' Standard Elbow	2	2	2	3	4	5	6	7	8	10	12	14	18	22	27	35	40	45	50	61
Fsp	Flow Switch Potter VSR	Fitting generates a Fixed Loss Based on Flow																			
G	Generic Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
T	90' Flow thru Tee	3	4	5	6	8	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121
V	90' Ell Firelock #001	0	0	0	0	0	3.5	4.3	5	0	6.8	8.5	10	13	0	0	0	0	0	0	0
X	90'Tee-BranchFirelock002	0	0	0	0	0	8.5	10.8	13	0	16	21	25	33	0	0	0	0	0	0	0
Zib	Wilkins 350A	Fitting generates a Fixed Loss Based on Flow																			

Pressure / Flow Summary - STANDARD

Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
301	18.0	5.6	17.17	na	23.21	0.15	130	7.0
C1	18.0		18.22	na				
302	22.0	5.6	7.17	na	15.0	0.15	100	7.0
303	22.0	5.6	7.17	na	15.0	0.15	100	7.0
C2	22.0		7.94	na				
C3	18.0		11.32	na				
304	18.0	5.6	13.51	na	20.59	0.15	130	7.0
C4	18.0		13.72	na				
305	18.0	5.6	14.94	na	21.65	0.15	130	7.0
C5	18.0		18.22	na				
306	18.0	5.6	12.89	na	20.1	0.15	130	7.0
307	18.0	5.6	14.47	na	21.3	0.15	130	7.0
C6	18.0		18.42	na				
308	18.0	5.6	13.14	na	20.3	0.15	130	7.0
309	18.0	5.6	14.75	na	21.51	0.15	130	7.0
C7	18.0		18.77	na				
310	18.0	5.6	19.34	na	24.62	0.15	100	7.0
311	18.0	5.6	20.41	na	25.3	0.15	100	7.0
312	18.0	5.6	23.44	na	27.11	0.15	100	7.0
X1	18.0		28.58	na				
X2	7.0		36.11	na				
TOR	7.0		42.44	na				
BOR	1.0		49.98	na				
BASE	5.0		61.52	na				
H1	6.0		61.3	na				
H2	8.0		60.44	na				
TEST	8.0		60.6	na	250.0			

The maximum velocity is 15.52 and it occurs in the pipe between nodes 309 and C7

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv.	Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	******* Notes ******
301	23.20	1.049	1T	5.0	1.100	17.171		K Factor = 5.60
to		120		0.0	5.000	0.0		
C1	23.2	0.1713		0.0	6.100	1.045		Vel = 8.61
C1	0.0	2.635		0.0	1.000	18.216		
to		120		0.0	0.0	0.0		
C5	23.2	0.0020		0.0	1.000	0.002		Vel = 1.36
	0.0							
	23.20					18.218		K Factor = 5.44
302	15.00	1.049	1T	5.0	5.000	7.175		K Factor = 5.60
to		120		0.0	5.000	0.0		
C2	15.0	0.0764		0.0	10.000	0.764		Vel = 5.57
	0.0							
	15.00					7.939		K Factor = 5.32
303	15.00	1.049	1T	5.0	5.000	7.175		K Factor = 5.60
to		120		0.0	5.000	0.0		
C2	15.0	0.0764		0.0	10.000	0.764		Vel = 5.57
C2	15.00	1.049	1E	2.0	4.000	7.939		
to		120		0.0	2.000	1.732		
C3	30.0	0.2755		0.0	6.000	1.653		Vel = 11.14
C3	0.0	1.049	1T	5.0	3.700	11.324		
to		120		0.0	5.000	0.0		
C4	30.0	0.2756		0.0	8.700	2.398		Vel = 11.14
	0.0							
	30.00					13.722		K Factor = 8.10
304	20.58	1.38		0.0	5.800	13.512		K Factor = 5.60
to		120		0.0	0.0	0.0		
C4	20.58	0.0362		0.0	5.800	0.210		Vel = 4.41
C4	30.00	1.38		0.0	6.400	13.722		
to		120		0.0	0.0	0.0		
305	50.58	0.1905		0.0	6.400	1.219		Vel = 10.85
305	21.65	1.38	1T	6.0	2.900	14.941		K Factor = 5.60
to		120		0.0	6.000	0.0		
C5	72.23	0.3682		0.0	8.900	3.277		Vel = 15.49
C5	23.21	2.635		0.0	7.500	18.218		
to		120		0.0	0.0	0.0		
C6	95.44	0.0264		0.0	7.500	0.198		Vel = 5.62
	0.0							
	95.44					18.416		K Factor = 22.24
306	20.10	1.049		0.0	12.000	12.889		K Factor = 5.60
to		120		0.0	0.0	0.0		
307	20.1	0.1314		0.0	12.000	1.577		Vel = 7.46
307	21.30	1.049	1T	5.0	2.900	14.466		K Factor = 5.60
to		120		0.0	5.000	0.0		
C6	41.4	0.5000		0.0	7.900	3.950		Vel = 15.37
C6	95.44	2.635		0.0	6.900	18.416		
to		120		0.0	0.0	0.0		
C7	136.84	0.0514		0.0	6.900	0.355		Vel = 8.05
	0.0							

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv.	Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	******* Notes ******
	136.84					18.771		K Factor = 31.58
308	20.30	1.049		0.0	12.000	13.143		K Factor = 5.60
to		120		0.0	0.0	0.0		
309	20.3	0.1338		0.0	12.000	1.606		Vel = 7.54
309	21.51	1.049	1T	5.0	2.900	14.749		K Factor = 5.60
to		120		0.0	5.000	0.0		
C7	41.81	0.5091		0.0	7.900	4.022		Vel = 15.52
C7	136.84	2.635		0.0	6.700	18.771		
to		120		0.0	0.0	0.0		
310	178.65	0.0842		0.0	6.700	0.564		Vel = 10.51
310	24.62	2.635		0.0	10.000	19.335		K Factor = 5.60
to		120		0.0	0.0	0.0		
311	203.27	0.1070		0.0	10.000	1.070		Vel = 11.96
311	25.30	2.635	1V	5.903	16.900	20.405		K Factor = 5.60
to		120		0.0	5.903	0.0		
312	228.57	0.1330		0.0	22.803	3.032		Vel = 13.45
312	27.11	2.635	1V	5.903	10.700	23.437		K Factor = 5.60
to		120	1X	14.827	20.730	0.0		
X1	255.68	0.1636		0.0	31.430	5.141		Vel = 15.04
X1	0.0	2.635	1V	5.903	11.000	28.578		
to		120		0.0	5.903	4.764		
X2	255.68	0.1635		0.0	16.903	2.764		Vel = 15.04
X2	0.0	2.635	2V	11.807	26.900	36.106		
to		120		0.0	11.807	0.0		
TOR	255.68	0.1636		0.0	38.707	6.331		Vel = 15.04
TOR	0.0	2.635	1Fsp	0.0	6.000	42.437		
to		120	1V	5.903	5.903	5.599		* Fixed loss = 3
BOR	255.68	0.1636		0.0	11.903	1.947		Vel = 15.04
BOR	0.0	2.635	1E	8.237	8.000	49.983		
to		120	1V	5.903	14.140	7.920		* Fixed loss = 9.652
BASE	255.68	0.1636	1Zib	0.0	22.140	3.621		Vel = 15.04
BASE	0.0	6.16	1G	4.304	60.000	61.524		
to		140	1T	43.037	47.341	-0.433		
H1	255.68	0.0020		0.0	107.341	0.211		Vel = 2.75
H1	0.0	8.27		0.0	20.000	61.302		
to		140		0.0	0.0	-0.866		
H2	255.68	0.0004		0.0	20.000	0.009		Vel = 1.53
H2	0.0	6.16	1E	20.084	10.000	60.445		
to		140	1G	4.304	67.425	0.0		
TEST	255.68	0.0020	1T	43.037	77.425	0.152		Vel = 2.75
	250.00							Qa = 250.00
	505.68					60.597		K Factor = 64.96

. . . Fire Protection by Computer Design

High Tech Fire Protection
84 Hackett Mills Road
P.O. Box 156
Minot, Maine 04258-0156
998-2551

Job Name	:	First Floor Dining Area Calc.
Building	:	231 York Street
Location	:	231 York Street
System	:	NFPA-13
Contract	:	031511-2
Data File	:	First Floor Dining Area Calc.wxf

Hydraulic Design Information Sheet

Name - First Floor Dining Area Calc. Date - 4/19/2011
Location - 231 York Street
Building - 231 York Street System No. - NFPA-13
Contractor - High Tech Fire Protection Contract No. - 031511-2
Calculated By - Jeremy Foss Drawing No. - FP-1.1
Construction: (X) Combustible ( ) Non-Combustible Ceiling Height - 8'-11"
Occupancy - Dining Area

SYSTEM DESIGN

(X) NFPA 13 (X) Lt. Haz. Ord.Haz.Gp. ( ) 1 ( ) 2 ( ) 3 ( ) Ex.Haz.
( ) NFPA 231 ( ) NFPA 231C ( ) Figure Curve
Other
Specific Ruling Made By Date

Area of Sprinkler Operation	- 900	System Type	Sprinkler/Nozzle
Density	- .1	(X) Wet	Make Globe
Area Per Sprinkler	- 225	( ) Dry	Model GL5601
Elevation at Highest Outlet	- 18.500	( ) Deluge	Size 1/2"
Hose Allowance - Inside	-	( ) Preaction	K-Factor 5.6
Rack Sprinkler Allowance	-	( ) Other	Temp.Rat.155
Hose Allowance - Outside	- 100		

Note

Calculation Summary

Flow Required - 277 Press Required - 60
C-Factor Used: 150 Overhead 150 Underground

WATER SUPPLY

Water Flow Test:	Pump Data:	Tank or Reservoir:
Date of Test - 5/26/2004		Cap. -
Time of Test -	Rated Cap.-	Elev.-
Static Press - 77	@ Press -	
Residual Press - 71	Elev. -	Well
Flow - 1383		Proof Flow
Elevation - 8		

Location - Test Hydrant Located on Brackett Street 20' from Project Site

Source of Information - Portland Water District

COMMODITY STORAGE

Commodity Class Location
Storage Ht. Area Aisle W.
Storage Method: Solid Piled % Palletized % Rack

( ) Single Row	( ) Conven. Pallet	( ) Auto. Storage	( ) Encap.	
R ( ) Double Row	( ) Slave Pallet	( ) Solid Shelf	( ) Non	
A ( ) Mult. Row		( ) Open Shelf		

Flue Spacing Clearance:Storage to Ceiling
Longitudinal Transverse

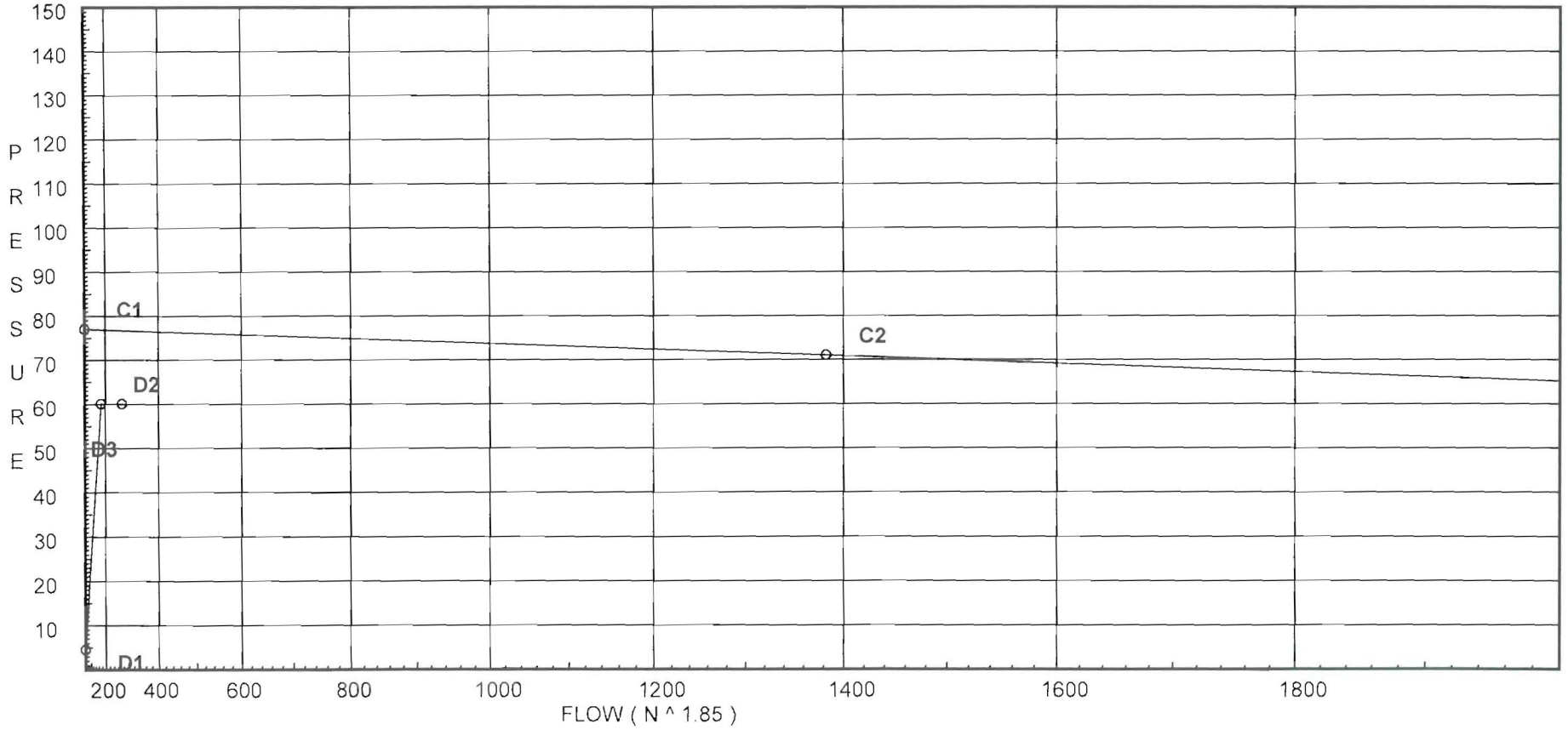
Horizontal Barriers Provided:

City Water Supply:

C1 - Static Pressure	77
C2 - Residual Pressure	71
C2 - Residual Flow	1383

Demand:

D1 - Elevation	4.548
D2 - System Flow	176.675
D2 - System Pressure	60.058
Hose (Adj City)	
Hose (Demand)	100
D3 - System Demand	276.675
Safety Margin	16.636



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
E	90' Standard Elbow	2	2	2	3	4	5	6	7	8	10	12	14	18	22	27	35	40	45	50	61
Fsp	Flow Switch Potter VSR	Fitting generates a Fixed Loss Based on Flow																			
G	Generic Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
N	CPVC 90'Ell Harvel-Spears	7	7	7	8	9	11	12	13	0	0	0	0	0	0	0	0	0	0	0	0
O	CPVC Tee - Branch	3	3	5	6	8	10	12	15	0	0	0	0	0	0	0	0	0	0	0	0
R	CPVC Coupling Tee - Run	1	1	1	1	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0
T	90' Flow thru Tee	3	4	5	6	8	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121
V	90' Ell Firelock #001	0	0	0	0	0	3.5	4.3	5	0	6.8	8.5	10	13	0	0	0	0	0	0	0
X	90'Tee-BranchFirelock002	0	0	0	0	0	8.5	10.8	13	0	16	21	25	33	0	0	0	0	0	0	0
Zib	Wilkins 350A	Fitting generates a Fixed Loss Based on Flow																			

Pressure / Flow Summary - STANDARD

Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
DP1	-1.0	5.6	16.14	na	22.5	0.1	225	7.0
DP2	-1.0	5.6	16.14	na	22.5	0.1	225	7.0
201	18.5	K = K @ EQ01	16.39	na	22.5			
202	18.5	K = K @ EQ02	17.06	na	23.08			
B1	18.5		19.69	na				
B2	18.0		22.25	na				
203	18.5	K = K @ EQ01	19.56	na	24.58			
B3	18.5		22.01	na				
B4	18.0		22.77	na				
204	18.5	K = K @ EQ01	18.62	na	23.99			
205	18.5	K = K @ EQ02	19.38	na	24.6			
B5	18.5		23.04	na				
B6	18.0		25.19	na				
206	18.5	K = K @ EQ01	23.06	na	26.69			
B7	18.5		25.91	na				
B8	18.0		26.76	na				
B9	18.0		29.55	na				
207	18.0	K = K @ EQ01	31.58	na	31.23			
B10	18.0		32.51	na				
X1	18.0		36.9	na				
X2	7.0		43.06	na				
TOR	7.0		46.25	na				
BOR	1.0		52.83	na				
BASE	5.0		61.17	na				
H1	6.0		60.84	na				
H2	8.0		59.98	na				
TEST	8.0		60.06	na	100.0			

The maximum velocity is 30.57 and it occurs in the pipe between nodes B8 and B9

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv.	Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	******* Notes ******
DP1	22.50	1.101	1N	7.0	1.000	16.143		K Factor = 5.60
to		150		0.0	7.000	-0.433		
EQ01	22.5	0.0846		0.0	8.000	0.677		Vel = 7.58
	0.0							
	22.50					16.387		K Factor = 5.56
DP2	22.50	1.101	1O	5.0	1.000	16.143		K Factor = 5.60
to		150		0.0	5.000	-0.433		
EQ02	22.5	0.0847		0.0	6.000	0.508		Vel = 7.58
	0.0							
	22.50					16.218		K Factor = 5.59
201	22.50	1.101	1R	1.0	7.000	16.387		K Factor @ node EQ01
to		150		0.0	1.000	0.0		
202	22.5	0.0846		0.0	8.000	0.677		Vel = 7.58
202	23.08	1.101	1O	5.0	3.400	17.064		K Factor @ node EQ02
to		150		0.0	5.000	0.0		
B1	45.58	0.3123		0.0	8.400	2.623		Vel = 15.36
B1	0.0	1.101	1N	7.0	0.500	19.687		
to		150		0.0	7.000	0.217		
B2	45.58	0.3123		0.0	7.500	2.342		Vel = 15.36
B2	0.0	1.394	1R	1.0	4.300	22.246		
to		150		0.0	1.000	0.0		
B4	45.58	0.0991		0.0	5.300	0.525		Vel = 9.58
	0.0							
	45.58					22.771		K Factor = 9.55
203	24.58	1.101	2N	14.0	10.500	19.564		K Factor @ node EQ01
to		150		0.0	14.000	0.0		
B3	24.58	0.0997		0.0	24.500	2.442		Vel = 8.28
B3	0.0	1.101	1O	5.0	0.500	22.006		
to		150		0.0	5.000	0.217		
B4	24.58	0.0996		0.0	5.500	0.548		Vel = 8.28
B4	45.58	1.394	1R	1.0	10.000	22.771		
to		150		0.0	1.000	0.0		
B6	70.16	0.2198		0.0	11.000	2.418		Vel = 14.75
	0.0							
	70.16					25.189		K Factor = 13.98
204	23.99	1.101	1R	1.0	7.000	18.622		K Factor @ node EQ01
to		150		0.0	1.000	0.0		
205	23.99	0.0952		0.0	8.000	0.762		Vel = 8.08
205	24.59	1.101	1N	7.0	3.400	19.384		K Factor @ node EQ02
to		150		0.0	7.000	0.0		
B5	48.58	0.3514		0.0	10.400	3.655		Vel = 16.37
B5	0.0	1.101	1O	5.0	0.500	23.039		
to		150		0.0	5.000	0.217		
B6	48.58	0.3515		0.0	5.500	1.933		Vel = 16.37
B6	70.17	1.394	1R	1.0	1.700	25.189		
to		150		0.0	1.000	0.0		
B8	118.75	0.5819		0.0	2.700	1.571		Vel = 24.96
	0.0							

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv.	Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	******* Notes ******
	118.75					26.760		K Factor = 22.96
206	26.69	1.101	2N	14.0	10.500	23.062		K Factor @ node EQ01
to		150		0.0	14.000	0.0		
B7	26.69	0.1160		0.0	24.500	2.843		Vel = 8.99
B7	0.0	1.101	1O	5.0	0.500	25.905		
to		150		0.0	5.000	0.217		
B8	26.69	0.1160		0.0	5.500	0.638		Vel = 8.99
B8	118.75	1.394	1R	1.0	2.300	26.760		
to		150		0.0	1.000	0.0		
B9	145.44	0.8470		0.0	3.300	2.795		Vel = 30.57
B9	0.0	2.003	1N	11.0	8.400	29.555		
to		150	1R	1.0	12.000	0.0		
B10	145.44	0.1449		0.0	20.400	2.956		Vel = 14.81
	0.0							
	145.44					32.511		K Factor = 25.51
207	31.23	1.101	1O	5.0	1.000	31.580		K Factor @ node EQ01
to		150		0.0	5.000	0.0		
B10	31.23	0.1552		0.0	6.000	0.931		Vel = 10.52
B10	145.45	2.003	2R	2.0	8.100	32.511		
to		150	1X	11.02	13.020	0.0		
X1	176.68	0.2077		0.0	21 120	4.387		Vel = 17.99
X1	0.0	2.635	1V	5.903	11.000	36.898		
to		120		0.0	5.903	4.764		
X2	176.68	0.0825		0.0	16.903	1.395		Vel = 10.39
X2	0.0	2.635	2V	11.807	26.900	43.057		
to		120		0.0	11.807	0.0		
TOR	176.68	0.0826		0.0	38.707	3.196		Vel = 10.39
TOR	0.0	2.635	1Fsp	0.0	6.000	46.253		
to		120	1V	5.903	5.903	5.599		* Fixed loss = 3
BOR	176.68	0.0825		0.0	11.903	0.982		Vel = 10.39
BOR	0.0	2.635	1E	8.237	8.000	52.834		
to		120	1V	5.903	14.140	6.508		* Fixed loss = 8.24
BASE	176.68	0.0825	1Zib	0.0	22.140	1.827		Vel = 10.39
BASE	0.0	6.16	1G	4.304	60.000	61.169		
to		140	1T	43.037	47.341	-0.433		
H1	176.68	0.0010		0.0	107.341	0.107		Vel = 1.90
H1	0.0	8.27		0.0	20.000	60.843		
to		140		0.0	0.0	-0.866		
H2	176.68	0.0002		0.0	20.000	0.004		Vel = 1.06
H2	0.0	6.16	1E	20.084	10.000	59.981		
to		140	1G	4.304	67.425	0.0		
TEST	176.68	0.0010	1T	43.037	77.425	0.077		Vel = 1.90
	100.00							Qa = 100.00
	276.68					60.058		K Factor = 35.70

. . . Fire Protection by Computer Design

High Tech Fire Protection
84 Hackett Mills Road
P.O. Box 156
Minot, Maine 04258-0156
998-2551

Job Name	:	Second Floor Calc.
Building	:	231 York Street
Location	:	231 York Street
System	:	NFPA-13
Contract	:	031511-2
Data File	:	Second Floor Calc.wxf

Hydraulic Design Information Sheet

Name - Second Floor Calc. Date - 4/19/2011
Location - 231 York Street
Building - 231 York Street System No. - NFPA-13
Contractor - High Tech Fire Protection Contract No. - 031511-2
Calculated By - Jeremy Foss Drawing No. - FP-1.1
Construction: (X) Combustible ( ) Non-Combustible Ceiling Height - Varies
Occupancy - Future Office Space

SYSTEM DESIGN

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

Specific Ruling	Made By	Date

Area of Sprinkler Operation - 510	System Type	Sprinkler/Nozzle
Density - .1	(X) Wet	Make Tyco
Area Per Sprinkler - 240	( ) Dry	Model BB3
Elevation at Highest Outlet - 31.500	( ) Deluge	Size 1/2"
Hose Allowance - Inside -	( ) Preaction	K-Factor 5.6
Rack Sprinkler Allowance -	( ) Other	Temp.Rat.212
Hose Allowance - Outside - 100		

Note

Calculation Summary: Flow Required - 228 Press Required - 66
C-Factor Used: 120 Overhead 140 Underground

WATER SUPPLY

Water Flow Test:	Pump Data:	Tank or Reservoir:
Date of Test - 5/26/2004		Cap. -
Time of Test -	Rated Cap.-	Elev.-
Static Press - 77	@ Press -	
Residual Press - 71	Elev. -	Well
Flow - 1383		Proof Flow
Elevation - 8		

Location - Test Hydrant Located on Brackett Street 20' from Project Site

Source of Information - Portland Water District

COMMODITY STORAGE

Commodity	Class	Location
Storage Ht.	Area	Aisle W.
Storage Method: Solid Piled %	Palletized %	Rack

( ) Single Row	( ) Conven. Pallet	( ) Auto. Storage	( ) Encap.
( ) Double Row	( ) Slave Pallet	( ) Solid Shelf	( ) Non
( ) Mult. Row		( ) Open Shelf	

RACK STORAGE

Flue Spacing Clearance:Storage to Ceiling
Longitudinal Transverse

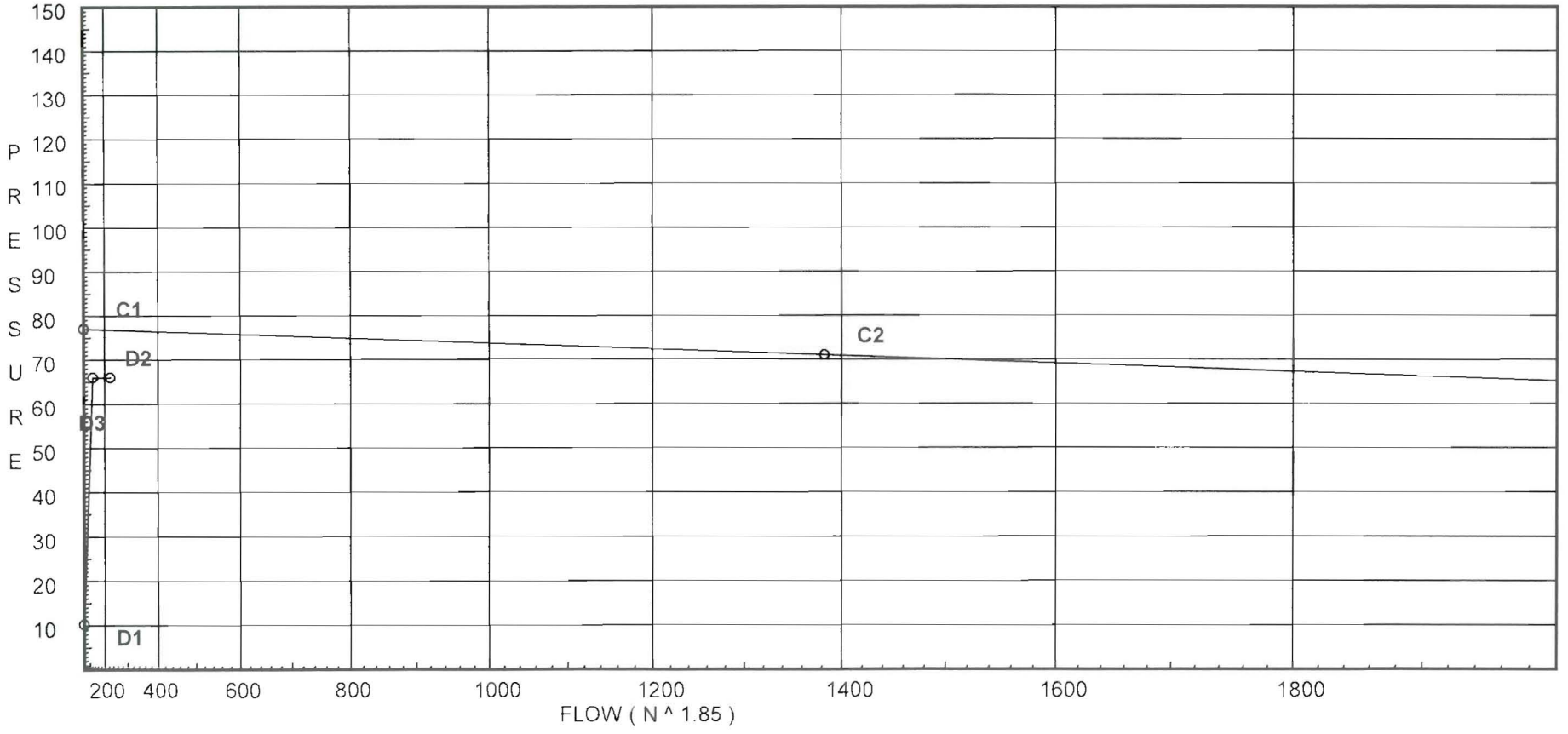
Horizontal Barriers Provided:

City Water Supply:

C1 - Static Pressure	77
C2 - Residual Pressure:	71
C2 - Residual Flow	1383

Demand:

D1 - Elevation	10.178
D2 - System Flow	127.873
D2 - System Pressure	65.982
Hose (Adj City)	
Hose (Demand)	100
D3 - System Demand	227.873
Safety Margin	10.805



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
E	90' Standard Elbow	2	2	2	3	4	5	6	7	8	10	12	14	18	22	27	35	40	45	50	61
Fsp	Flow Switch Potter VSR	Fitting generates a Fixed Loss Based on Flow																			
G	Generic Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
N	CPVC 90'Ell Harvel-Spears	7	7	7	8	9	11	12	13	0	0	0	0	0	0	0	0	0	0	0	0
O	CPVC Tee - Branch	3	3	5	6	8	10	12	15	0	0	0	0	0	0	0	0	0	0	0	0
T	90' Flow thru Tee	3	4	5	6	8	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121
V	90' Ell Firelock #001	0	0	0	0	0	3.5	4.3	5	0	6.8	8.5	10	13	0	0	0	0	0	0	0
Zib	Wilkins 350A	Fitting generates a Fixed Loss Based on Flow																			

Pressure / Flow Summary - STANDARD

Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
101	31.5	5.6	20.0	na	25.04	0.1	240	20.0
102	31.5	5.6	20.1	na	25.11	0.1	240	20.0
103	31.5	5.6	20.46	na	25.33	0.1	240	20.0
104	31.5	5.6	21.23	na	25.8	0.1	240	20.0
105	31.5	5.6	22.55	na	26.59	0.1	240	20.0
A1	31.5		32.59	na				
A2	18.0		40.58	na				
X1	18.0		46.12	na				
X2	7.0		51.65	na				
TOR	7.0		53.4	na				
BOR	1.0		59.54	na				
BASE	5.0		67.18	na				
H1	6.0		66.8	na				
H2	8.0		65.94	na				
TEST	8.0		65.98	na	100.0			

The maximum velocity is 18.46 and it occurs in the pipe between nodes 105 and A1

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv.	Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	******* Notes ******
101	25.04	1.682		0.0	5.000	20.000		K Factor = 5.60
to		120		0.0	0.0	0.0		
102	25.04	0.0198		0.0	5.000	0.099		Vel = 3.62
102	25.11	1.682		0.0	5.000	20.099		K Factor = 5.60
to		120		0.0	0.0	0.0		
103	50.15	0.0714		0.0	5.000	0.357		Vel = 7.24
103	25.33	1.682		0.0	5.100	20.456		K Factor = 5.60
to		120		0.0	0.0	0.0		
104	75.48	0.1525		0.0	5.100	0.778		Vel = 10.90
104	25.80	1.682		0.0	5.000	21.234		K Factor = 5.60
to		120		0.0	0.0	0.0		
105	101.28	0.2624		0.0	5.000	1.312		Vel = 14.62
105	26.59	1.682	1E	4.95	10.000	22.546		K Factor = 5.60
to		120	1T	9.9	14.850	0.0		
A1	127.87	0.4040		0.0	24.850	10.040		Vel = 18.46
A1	0.0	2.157	1V	4.307	13.500	32.586		
to		120		0.0	4.307	5.847		
A2	127.87	0.1203		0.0	17.807	2.143		Vel = 11.23
A2	0.0	2.003	2O	20.0	17.500	40.576		
to		150	1N	11.0	31.000	0.0		
X1	127.87	0.1142		0.0	48.500	5.539		Vel = 13.02
X1	0.0	2.635	1V	5.903	11.000	46.115		
to		120		0.0	5.903	4.764		
X2	127.87	0.0454		0.0	16.903	0.767		Vel = 7.52
X2	0.0	2.635	2V	11.807	26.900	51.646		
to		120		0.0	11.807	0.0		
TOR	127.87	0.0454		0.0	38.707	1.758		Vel = 7.52
TOR	0.0	2.635	1Fsp	0.0	6.000	53.404		
to		120	1V	5.903	5.903	5.599		* Fixed loss = 3
BOR	127.87	0.0453		0.0	11.903	0.539		Vel = 7.52
BOR	0.0	2.635	1E	8.237	8.000	59.542		
to		120	1V	5.903	14.140	6.630		* Fixed loss = 8.362
BASE	127.87	0.0454	1Zib	0.0	22.140	1.006		Vel = 7.52
BASE	0.0	6.16	1G	4.304	60.000	67.178		
to		140	1T	43.037	47.341	-0.433		
H1	127.87	0.0005		0.0	107.341	0.058		Vel = 1.38
H1	0.0	8.27		0.0	20.000	66.803		
to		140		0.0	0.0	-0.866		
H2	127.87	0.0002		0.0	20.000	0.003		Vel = 0.76
H2	0.0	6.16	1E	20.084	10.000	65.940		
to		140	1G	4.304	67.425	0.0		
TEST	127.87	0.0005	1T	43.037	77.425	0.042		Vel = 1.38
	100.00							Qa = 100.00
	227.87					65.982		K Factor = 28.05