

City of Portland, Maine - Building or Use Permit Application

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

Job No: 2011-05-1127-FAFS	Date Applied: 5/18/2011	CBL: 044 - - A - 005 - 001 - - - - -	
Location of Construction: 127 YORK ST	Owner Name: HARBORVIEW APTS LLC	Owner Address: PO Box 8816 Portland, ME 04104	Phone:
Business Name:	Contractor Name: Sprinkler Systems, Inc. – Scott Garland	Contractor Address: PO Box 1285, Lewiston, ME 04243	Phone: 207-782-0104
Lessee/Buyer's Name:	Phone:	Permit Type: FIRE SYS WB - Fire Suppression Water Based	Zone: R-6
Past Use: 12 Residential Condos	Proposed Use: 12 residential condos – install water based fire suppression system	Cost of Work: 6000.00	CEO District:
		Fire Dept: <input checked="" type="checkbox"/> Approved <i>w/ conditions</i> <input type="checkbox"/> Denied <input type="checkbox"/> N/A	Inspection: Use Group: Type:
		Signature: <i>Bjander</i> (58)	Signature:
Proposed Project Description: 127-129 York Street – install water based fire suppression system		Pedestrian Activities District (P.A.D.)	
Permit Taken By:		Zoning Approval	

<p>1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</p> <p>2. Building Permits do not include plumbing, septic or electrical work.</p> <p>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.</p>	Special Zone or Reviews <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetlands <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan <input type="checkbox"/> Maj <input type="checkbox"/> Min <input type="checkbox"/> MM Date: <i>OK w/ condition</i> <i>5/25/11</i> <i>ABU</i>	Zoning Appeal <input checked="" type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied Date:	Historic Preservation <input checked="" type="checkbox"/> Not in Dist or Landmark <input type="checkbox"/> Does not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date: <i>ABU</i>
	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 application 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
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Sprinkler Systems, Inc.

P.O. Box 1285

Lewiston, ME 04243-1285

Letter of Transmittal

DATE	4-12-11	JOB #	11027
ATTENTION:	INSPECTIONS		
RE:	127-129 YORK STREET PORTLAND, ME		

TO: CITY OF PORTLAND
RM 315 - INSPECTIONS
PORTLAND, ME

WE ARE SENDING YOU:

- Attached Under separate cover via _____ the following items:
 Shop drawings Prints Plans Samples Specifications Wavier or Liens
 Copy of letter Change order Signed Contracts HYD CALCS, PERMIT CHECK, ETC

COPIES	DATE	NO.	DESCRIPTION
1c	3-22-11	13073	SPRINKLER SHOP DRAWINGS
1c	3-18-11	14905	HYDRAULIC CALCULATIONS PACKAGE
1c	3-22-11	-	FLOW TEST MAP - PLWD
1c	3-22-11	13073	11X17 REDUCED SPRINKLER DRAWINGS
1c	4-9-11	9462	STATE FIRE MARSHAL'S PERMIT
1c	3-29-11	26534	PERMIT CHECK FOR \$500
1c	5-18-11	-	PORTLAND PERMIT APPLICATION

THESE ARE TRANSMITTED as checked below:

- For your approval Approved as submitted Resubmit _____ copies for approval
 For your use Approved as noted Submit _____ copies for distribution

REMARKS:

PLEASE RETURN 1 PERMIT

THANK YOU,
SLOTT E. CARLAND, SGT, RMS

SIGNED: _____

PROJ. MGR.

will email PDF



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: 127-129 York Street CBL: 044 A005

Exact location: (within structure) Entire

Type of occupancy(s) (NFPA & ICC): Residential - Condominiums

Building owner: Redfern Properties LLC, PO Box 8816, Portland, ME 04104

Managing Supervisor (RMS): Scott E. Garland License No: 278

Supervisor phone: 207-775-1521 E-mail: scottssi@maine.rr.com

Installing contractor: Sprinkler Systems Inc. License No: 093

Contractor phone: 207-782-0104 775-1521 E-mail: _____

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-R 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: \$6,000.00

PERMIT FEE: \$80.00

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

RECEIVED

MAY 18 2011

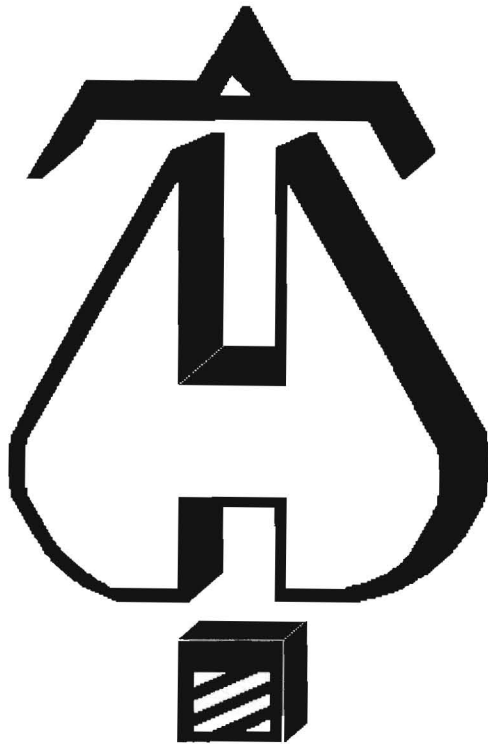
Dept. of Building Inspections
City of Portland Maine

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).

Applicant signature: _____ Date: 5-18-2011



... Fire Protection by Computer Design

Sprinkler Systems, Inc.
2-4 Avon Street
P.O. Box 1285
Lewiston, Maine 04240
207-782-0104

Job Name : 127-129 York St.
Building : ENTIRE
Location : 127-129 YORK STREET, PORTLAND, ME 04101
System : 1 OF 1
Contract : 11027
Data File : 127-129YORKST1.WXF

HYDRAULIC DESIGN INFORMATION SHEET

Name - 127-129 YORK STREET Date - 3-22-2011
Location - 127-129 YORK STREET, PORTLAND, ME 04101
Building - ENTIRE System No. - 1 OF 1
Contractor - OWNER Contract No. - 11027
Calculated By - KRISTOPHER J. FISH Drawing No. - 1-3 OF 3
Construction: (X) Combustible () Non-Combustible Ceiling Height 8-6
OCCUPANCY - RESIDENTIAL - CONDOMINIUMS

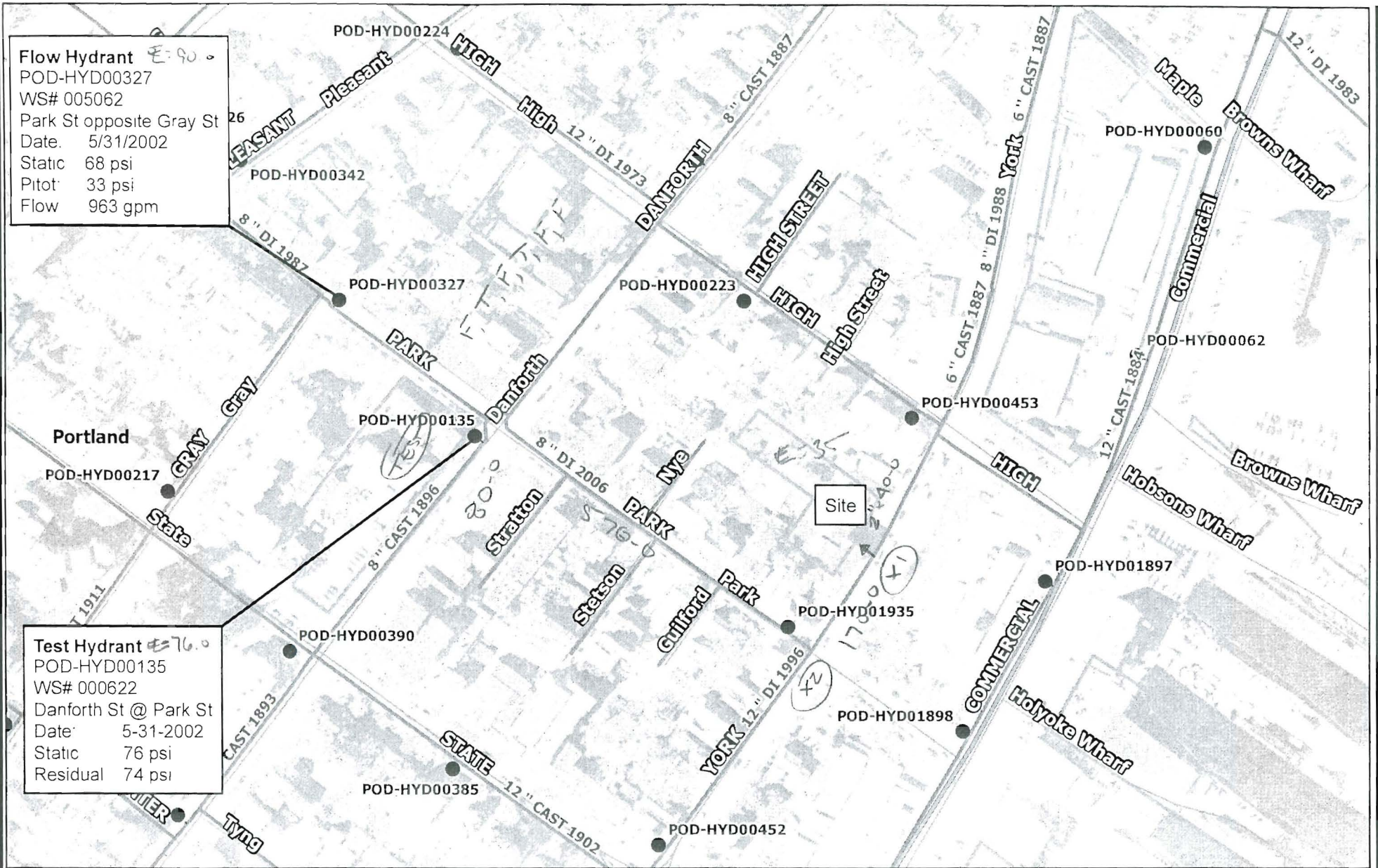
S Type of Calculation: ()NFPA 13 Residential (X)NFPA 13R ()NFPA 13D
Y Number of Sprinklers Flowing: ()1 ()2 (X)4 ()
S ()Other
T ()Specific Ruling Made by Date
E
M Listed Flow at Start Point - 13 Gpm System Type
Listed Pres. at Start Point - 7 Psi (X) Wet () Dry
D MAXIMUM LISTED SPACING 16 x 16 () Deluge () PreAction
E Domestic Flow Added - Gpm Sprinkler or Nozzle
S Additional Flow Added - Gpm Make RELIABLE Model F1RES49
I Elevation at Highest Outlet - 72.333Feet Size 1/2X1/2 K-Factor 4.9
G Note:DESIGN AREA #1 - THIRD FLOOR Temperature Rating 155 DEG
N

Calculation Gpm Required 56.27 Psi Required 59.531 AT BASE OF RISER
Summary C-Factor Used: Overhead 150 Underground 150

W Water Flow Test: Pump Data: Tank or Reservoir:
A Date of Test - 5-31-2002 Rated Cap. Cap.
T Time of Test - @ Psi Elev.
E Static (Psi) - 76 Elev.
R Residual (Psi) - 74 Other Well
Flow (Gpm) - 963 Proof Flow Gpm
S Elevation - 70.5
P Location: WATER WAS FLOWED FROM HYD #327 ON PARK ST OPPOSITE GRAY ST FROM AN
P 8" CIRCULATING CITY MAIN. TEST GUAGE READ FROM HYD #135 ON DANFORTH ST.
L Source of Information: PORTLAND WATER DISTRICT
Y

Flow Hydrant $E=90.0$
 POD-HYD00327
 WS# 005062
 Park St opposite Gray St
 Date: 5/31/2002
 Static 68 psi
 Pitot 33 psi
 Flow 963 gpm

Test Hydrant $E=76.0$
 POD-HYD00135
 WS# 000622
 Danforth St @ Park St
 Date: 5-31-2002
 Static 76 psi
 Residual 74 psi



York Street

Portland

PORTLAND WATER DISTRICT
 225 Douglass Street
 Portland, ME 04104



Legend

- | | | | | | | | |
|---|--------------|---|-----------------|---|-----------------|---|----------|
| ⊙ | Blow Off | Ⓜ | Fire Service | ○ | Air Valve | ● | Sleeve |
| ⊕ | By Pass | ● | Hydrant Control | ○ | Date Change | • | Tee |
| ⊗ | Distribution | Ⓜ | Service | ● | Material Change | ● | Hydrants |
| ⊠ | End of Main | ● | Transmission | ▲ | Reducer | | |



Disclaimer: This map is suitable for preliminary study and analysis and is based on PWD record information. PWD is not liable for any damages whatsoever resulting from inaccurate data or from errors made in the location and marking of its infrastructure.

Drawn By MAV

Prepared for Scott

Scale: As Noted

Date: 03/22/2011



State of Maine
Department of Public Safety



Fire Sprinkler System Permit

9462

127-129 York Street

Located at: 127-129 York Street
In the Town of: Portland
Occupancy/Use: Condominiums
Type of System: NFPA 13R

Permission is hereby given to:

Sprinkler Systems, Inc.

PO Box 1285
Lewiston, ME 042431285
Contractor License # 93

to begin installation according to plans submittal approved by the Office of State Fire Marshal. The submittal is filed under log # 2111111, and no departure from the application submittal shall be made without prior approval in writing. This permit is issued under the provisions of Title 32, Chapter 20, Section 12004-I. Nothing herein shall excuse the holder of this permit from failure to comply with local ordinances, zoning laws, or other pertinent legal restrictions. This permit shall be displayed at the construction site or be made readily available.

This permit was issued on 4/9/2011 for a fee paid of \$112.00

This permit will expire at midnight on Thursday, October 06, 2011

The expiration date applies only if the installation has not begun by that date and no permission has been granted to extend the date. Once installation begins, then the permit is valid for however long it takes to complete the installation, assuming that the work is fairly continuous.

John E. Morris
Commissioner

The type of Fire Department Connection and its location is to be according to the Local Fire Department

Within 30 days of the completion of a new fire sprinkler system or an addition to an existing fire sprinkler system, a fire sprinkler system contractor shall provide to the Office of State Fire Marshal a copy of this permit signed and dated by the certified Responsible Managing Supervisor representing that the fire sprinkler system has been installed according to specifications of the approved plan to the best of the supervisor's knowledge, information, and belief. This requirement is part of the sprinkler law, and neglect of this duty is grounds to not renew the contractor's license to do work in the State of Maine. All renewed sprinkler licenses are good for two years and expire on a June 30th.

Job completed, tested and verified by date of _____

RMS for this job: Garland Scott E.

RMS Signature: _____

Pressure / Flow Summary - STANDARD

Sprinkler Systems, Inc.
127-129 York St.

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Date 3-18-2011

Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
TYP	0.0	4.9	7.0	na	12.96	0.05	259.284	7.0
1	72.333	K = K @ DRP	7.3	na	12.96			
2	72.333	K = K @ DRP	7.57	na	13.2			
3	72.333	K = K @ DRP	8.69	na	14.14			
4	72.333	K = K @ DRP	11.06	na	15.96			
A	72.333		10.01	na				
B	72.333		12.17	na				
C	72.333		23.84	na				
DT	44.333		48.88	na				
D	43.333		54.61	na				
L	43.333		54.68	na				
J	43.333		54.92	na				
K	43.333		55.52	na				
RT	43.333		57.34	na				
RM	38.917		59.53	na				
RB	36.0		66.82	na				
X1	29.5		71.27	na				
X2	70.5		53.52	na				
TEST	70.5		53.54	na	100.0			

The maximum velocity is 20.89 and it occurs in the pipe between nodes DT and D

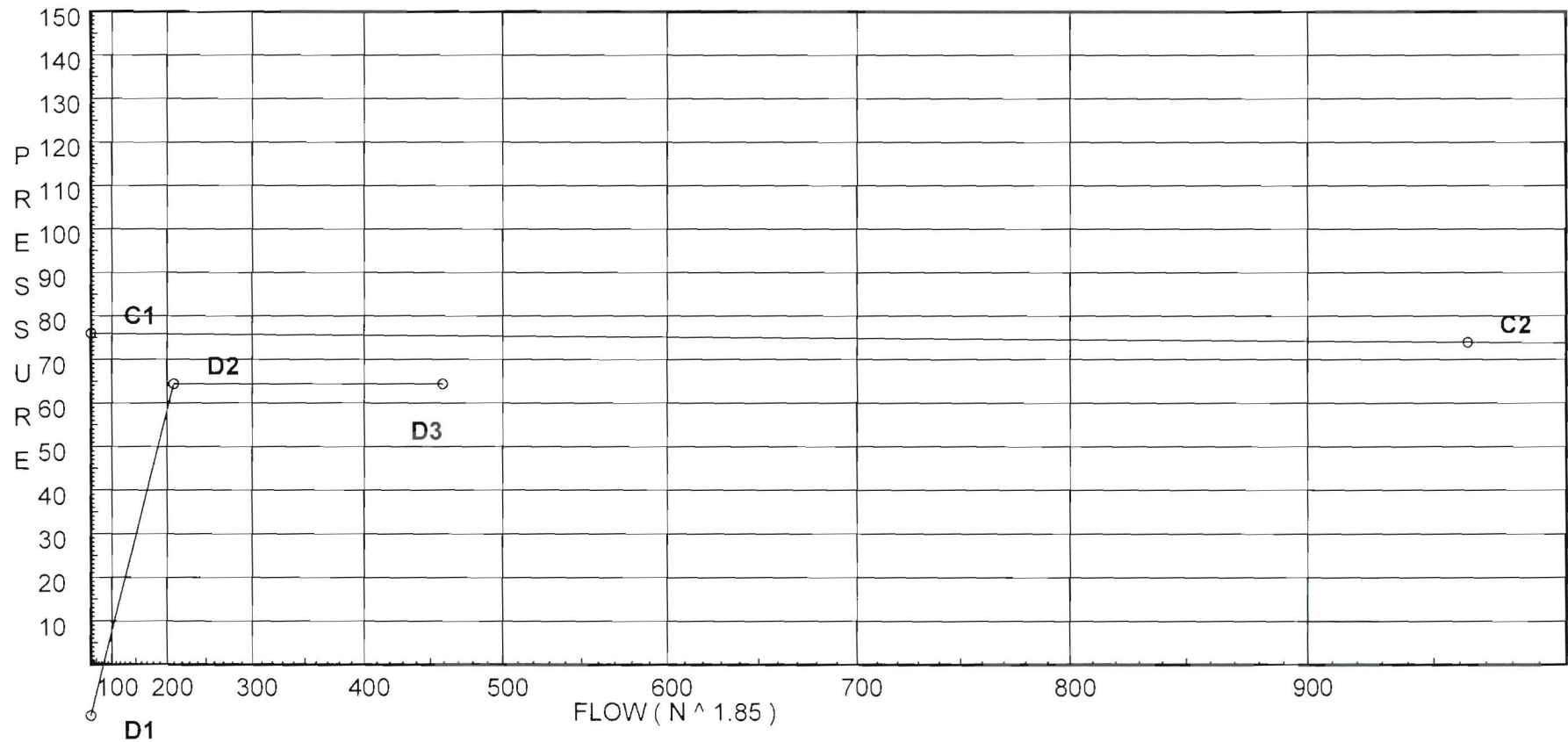
Water Supply Curve (C)

Sprinkler Systems, Inc.
127-129 York St.

Page 14
Date 3-18-2011

City Water Supply:
C1 - Static Pressure : 76
C2 - Residual Pressure: 74
C2 - Residual Flow : 963

Demand:
D1 - Elevation : -11.549
D2 - System Flow : 208.913
D2 - System Pressure : 64.407
Hose (Adj City) :
Hose (Demand) : 250
D3 - System Demand : 458.913
Safety Margin : 11.085



Final Calculations - Hazen-Williams

Sprinkler Systems, Inc.
127-129 York St.

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Date 3-18-2011

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv. Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	***** Notes *****
TYP to DRP	12.96 12.96 0.0	1.101 150	1T 0.0	9.563 0.0	0.333 9.562	7.000 0.0	K Factor = 4.90
	0.0					7.302	Vel = 4.37
1 to 2	12.96 12.96	1.101 150	1E 0.0	3.825 3.825	5.000 8.825	7.302 0.0	K Factor @ node DRP
2 to 2	12.96 13.21	0.0305 1.101	0.0	0.0	8.825 10.000	0.269 7.571	Vel = 4.37
2 to 3	13.21 26.17	1.101 0.1119	0.0	0.0	10.000 10.000	7.571 1.119	K Factor @ node DRP
3 to 3	26.17 14.14	0.1119 1.101	0.0	0.0	10.000 3.825	1.119 8.690	Vel = 8.82
3 to A	14.14 40.31	1.101 0.2486	1E 0.0	3.825 5.325	1.500 5.325	8.690 1.324	K Factor @ node DRP
	0.0					1.324	Vel = 13.58
	40.31					10.014	K Factor = 12.74
4 to B	15.96 15.96	1.101 150	1T 0.0	9.563 9.562	15.167 9.562	11.063 0.0	K Factor @ node DRP
	0.0	0.0448	0.0	24.729	1.108	1.108	Vel = 5.38
	15.96					12.171	K Factor = 4.57
A to B	40.31 40.31	1.101 150	0.0	8.667 0.0	8.667 0.0	10.014 0.0	
B to B	40.31 15.96	0.2489 1.101	0.0	8.667 9.563	8.667 15.750	2.157 12.171	Vel = 13.58
B to C	15.96 56.27	1.101 0.4611	1T 0.0	9.563 9.562	15.750 25.312	12.171 11.672	Vel = 18.96
C to C	56.27 0.0	0.4611 1.101	0.0	0.0	25.312 28.000	11.672 23.843	
C to DT	0.0 56.27	1.101 0.4611	0.0	0.0	28.000 28.000	23.843 12.911	Vel = 18.96
DT to DT	56.27 0.0	0.4611 1.049	0.0	28.000	28.000	12.911	
DT to D	0.0 56.27	1.049 0.8818	1T 0.0	5.0 5.0	1.000 6.000	48.881 5.291	Vel = 20.89
D to D	56.27 0.0	0.8818 1.61	0.0	6.000	6.000	5.291	
D to L	0.0 56.27	1.61 0.1094	0.0	0.667	0.667	54.605	Vel = 8.87
L to L	56.27 0.0	0.1094 2.067	0.0	0.0	0.667	0.073	
L to J	0.0 56.27	2.067 0.0324	0.0	7.500	7.500	54.678	Vel = 5.38
J to J	56.27 0.0	0.0324 2.067	0.0	7.500	7.500	0.243	
J to K	0.0 56.27	2.067 0.0325	0.0	18.333	18.333	54.921	Vel = 5.38
K	56.27	0.0325	0.0	18.333	18.333	0.595	Vel = 5.38

Final Calculations - Standard

Sprinkler Systems, Inc.
127-129 York St.

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Date 3-18-2011

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv. Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	*****	Notes	*****
K	0.0	2.067	1T 10.0	46.250	55.516				
to		120	0.0	10.000	0.0				
RT	56.27	0.0324	0.0	56.250	1.824		Vel = 5.38		
RT	0.0	2.157	1Z 6.153	4.417	57.340				
to		120	0.0	6.153	1.913				
RM	56.27	0.0263	0.0	10.570	0.278		Vel = 4.94		
RM	0.0	2.635	0.0	2.917	59.531				
to		120	0.0	0.0	7.263		* Fixed loss = 6		
RB	56.27	0.0099	0.0	2.917	0.029		Vel = 3.31		
RB	0.0	1.959	1E 5.818	40.000	66.823				
to		150	1T 11.635	18.616	2.815				
X1	56.27	0.0279	1G 1.164	58.616	1.634		Vel = 5.99		
X1	0.0	12.34	1T 93.767	170.000	71.272				
to		140	0.0	93.767	-17.757				
X2	56.27	0.0	0.0	263.767	0.001		Vel = 0.15		
X2	0.0	8.27	4F 56.936	650.000	53.516				
to		140	2T 110.709	167.645	0.0				
TEST	56.27	0.0	0.0	817.645	0.023		Vel = 0.34		
	100.00						Qa = 100.00		
	156.27				53.539		K Factor = 21.36		

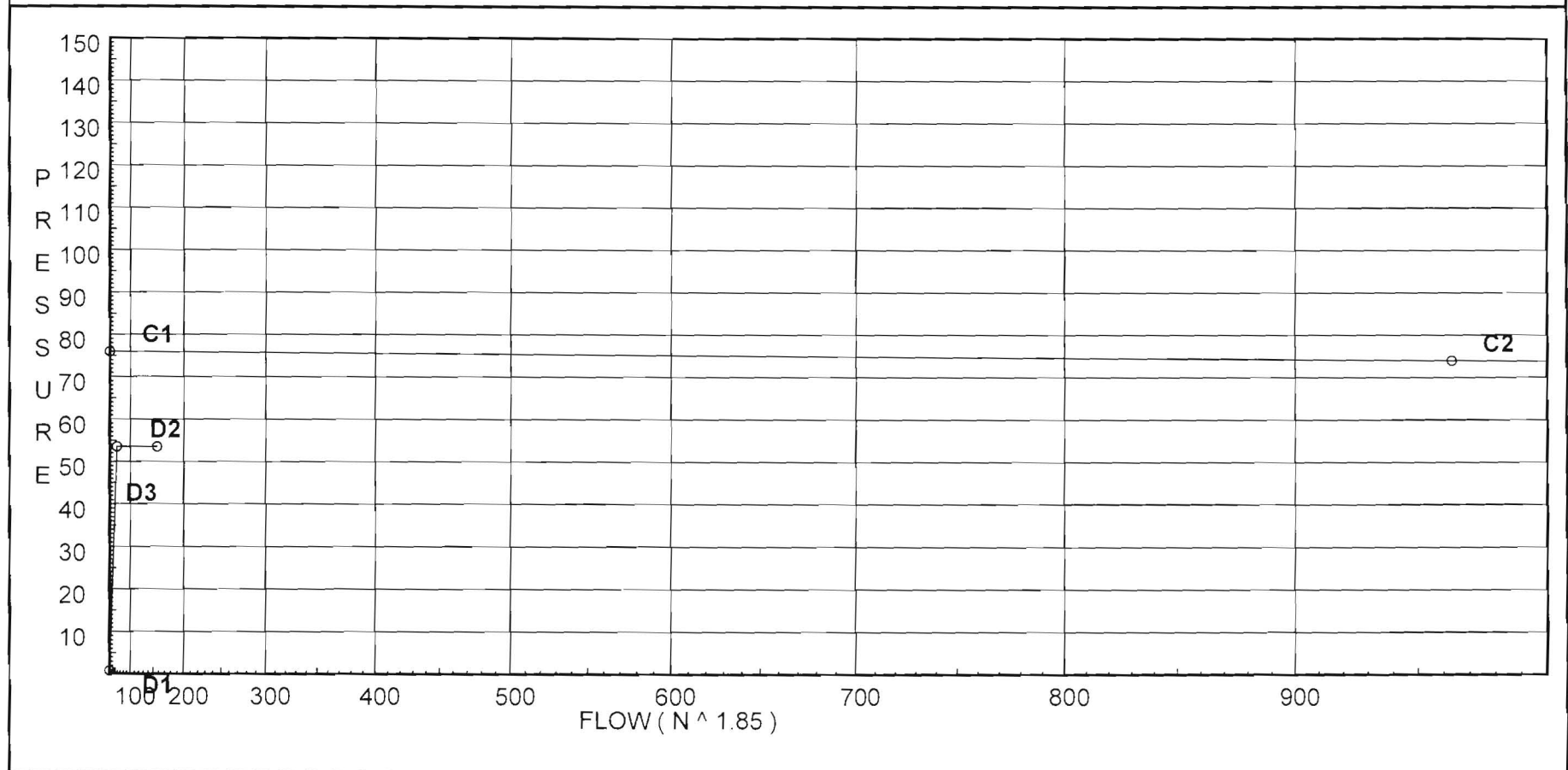
Water Supply Curve (C)

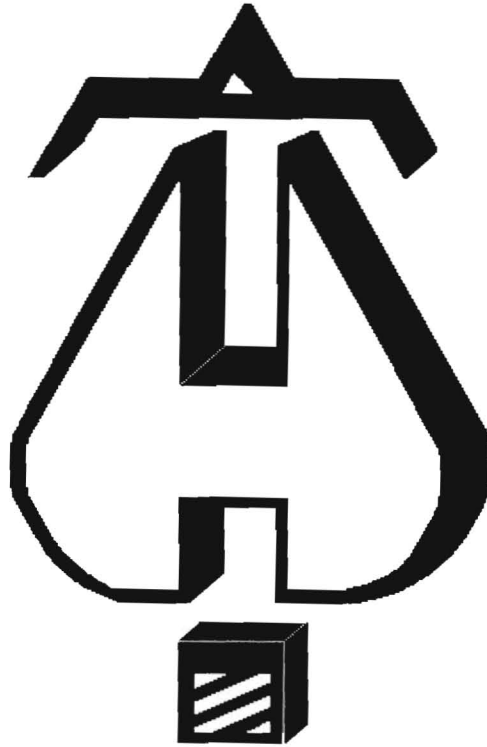
Sprinkler Systems, Inc.
127-129 York St.

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Date 3-18-2011

City Water Supply:
C1 - Static Pressure : 76
C2 - Residual Pressure: 74
C2 - Residual Flow : 963

Demand:
D1 - Elevation : 0.794
D2 - System Flow : 56.265
D2 - System Pressure : 53.539
Hose (Adj City) :
Hose (Demand) : 100
D3 - System Demand : 156.265
Safety Margin : 22.392





... Fire Protection by Computer Design

Sprinkler Systems, Inc.
2-4 Avon Street
P.O. Box 1285
Lewiston, Maine 04240
207-782-0104

Job Name : 127-129 York St.
Building : ENTIRE
Location : 127-129 YORK STREET, PORTLAND, ME 04101
System : 1 OF 1
Contract : 11027
Data File : 127-129YORKST2.WXF

Hydraulic Design Information Sheet

Name - 127-129 YORK STREET Date - 3-22-2011
 Location - 127-129 YORK STREET, PORTLAND, ME 04101
 Building - ENTIRE System No. - 1 OF 1
 Contractor - OWNER Contract No. - 11027
 Calculated By - KRISTOPHER J. FISH Drawing No. - 1 OF 3
 Construction: (X) Combustible () Non-Combustible Ceiling Height - OWJ
 Occupancy - ORDINARY HAZARD GROUP 1 - BASEMENT MECHANICAL

S (X) NFPA 13 () Lt. Haz. Ord.Haz.Gp. (X) 1 () 2 () 3 () Ex.Haz.
 Y () NFPA 231 () NFPA 231C () Figure Curve
 S Other
 T Specific Ruling Made By Date
 E
 M Area of Sprinkler Operation - 900 SF System Type Sprinkler/Nozzle
 Density - .15 (X) Wet Make RELIABLE
 D Area Per Sprinkler - 108 SF () Dry Model F1FR
 E Elevation at Highest Outlet - 43.833 () Deluge Size 1/2X1/2
 S Hose Allowance - Inside - () Preaction K-Factor 5.6
 I Rack Sprinkler Allowance - () Other Temp.Rat.200 DEG
 G Hose Allowance - Outside - 250 GPM AT TEST
 N
 Note DESIGN AREA #2 - BASEMENT

Calculation Flow Required - 208.91 Press Required - 52.984 AT BASE OF RISER
 Summary C-Factor Used: 120 Overhead 150 Underground

W Water Flow Test: Pump Data: Tank or Reservoir:
 A Date of Test - 5-21-2002 Cap. -
 T Time of Test - Rated Cap.- Elev.-
 E Static Press - 76 @ Press -
 R Residual Press - 74 Elev. - Well
 Flow - 963 Proof Flow
 S Elevation - 70.5

U Location - WATER WAS FLOWED FROM HYD #327 ON PARK ST OPPOSITE GRAY ST FROM AN
 P 8" CIRCULATING CITY MAIN. TEST GUAGE READ FROM HYD #135 ON DANFORTH ST.
 L Source of Information - PORTLAND WATER DISTRICT
 Y

C Commodity Class Location
 O Storage Ht. Area Aisle W.
 M Storage Method: Solid Piled % Palletized % Rack
 M
 () Single Row () Conven. Pallet () Auto. Storage () Encap.
 S R () Double Row () Slave Pallet () Solid Shelf () Non
 T A () Mult. Row () Open Shelf
 O C
 R K Flue Spacing Clearance:Storage to Ceiling
 A Longitudinal Transverse
 G
 E Horizontal Barriers Provided:

Pressure / Flow Summary - STANDARD

Sprinkler Systems, Inc.
127-129 York St.

Page 10
Date 3-18-2011

Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
TYP	0.0	5.6	8.37	na	16.2	0.15	108	8.369
TYP1	0.0	5.6	8.37	na	16.2	0.15	108	8.369
5	43.833	K = K @ DRP	11.06	na	18.12			
ET	43.833		11.52	na				
6	43.833	K = K @ DRP	8.84	na	16.2			
7	43.833	K = K @ DRP	10.38	na	17.56			
FT	43.833		11.23	na				
8	43.833	K = K @ DRP	9.58	na	16.87			
9	43.833	K = K @ DRP	10.86	na	17.96			
GT	43.833		11.76	na				
10	43.833	K = K @ DRP	11.12	na	18.17			
11	43.833	K = K @ DRP	12.59	na	19.33			
HT	43.833		13.62	na				
12	43.833	K = K @ DRP1	13.08	na	19.47			
13	43.833	K = K @ DRP1	13.83	na	20.02			
14	43.833	K = K @ DRP1	15.41	na	21.13			
LT	43.833		16.39	na				
15	43.833	K = K @ DRP	19.55	na	24.09			
JT	43.833		20.0	na				
E	43.333		12.01	na				
F	43.333		12.03	na				
G	43.333		12.6	na				
H	43.333		14.55	na				
D	43.333		18.02	na				
L	43.333		18.34	na				
J	43.333		20.53	na				
K	43.333		27.26	na				
RT	43.333		47.92	na				
RM	38.917		52.98	na				
RB	36.0		60.58	na				
X1	29.5		81.89	na				
X2	70.5		64.14	na				
TEST	70.5		64.41	na	250.0			

The maximum velocity is 22.24 and it occurs in the pipe between nodes RB and X1

Final Calculations - Hazen-Williams

Sprinkler Systems, Inc.
127-129 York St.

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Date 3-18-2011

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv. Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	***** Notes *****
TYP to	16.20	1.049	1T 5.0	0.333	8.369		K Factor = 5.60
DRP	16.2	0.0881	0.0	5.000	0.0		Vel = 6.01
	0.0						
	16.20				8.839		K Factor = 5.45
TYP1 to	16.20	1.049	1E 2.0	0.833	8.369		K Factor = 5.60
DRP1	16.2	0.0881	1T 5.0	7.000	0.0		Vel = 6.01
	0.0						
	16.20				9.059		K Factor = 5.38
5 to	18.12	1.049	1E 2.0	2.250	11.060		K Factor @ node DRP
ET	18.12	0.1085	0.0	2.000	0.0		Vel = 6.73
ET to	0.0	1.049	1E 2.0	0.500	11.521		
E	18.12	0.1084	0.0	2.000	0.217		Vel = 6.73
	0.0						
	18.12				12.009		K Factor = 5.23
6 to	16.20	1.049	1E 2.0	15.500	8.839		K Factor @ node DRP
7	16.2	0.0881	0.0	2.000	0.0		Vel = 6.01
7 to	17.56	1.38	1E 3.0	17.500	1.542		K Factor @ node DRP
FT	33.76	0.0902	0.0	3.000	0.0		Vel = 7.24
FT to	0.0	1.38	1T 6.0	9.417	0.849		
F	33.76	0.0900	0.0	0.500	11.230		Vel = 7.24
	0.0			6.000	0.217		
	33.76			6.500	0.585		
					12.032		K Factor = 9.73
8 to	16.87	1.049	0.0	13.500	9.580		K Factor @ node DRP
9	16.87	0.0950	0.0	0.0	0.0		Vel = 6.26
9 to	17.95	1.38	1E 3.0	13.500	1.282		K Factor @ node DRP
GT	34.82	0.0955	0.0	6.417	10.862		Vel = 7.47
GT to	0.0	1.38	1T 6.0	3.000	0.0		
G	34.82	0.0954	0.0	0.500	11.761		Vel = 7.47
	0.0			6.000	0.217		
	34.82			6.500	0.620		
					12.598		K Factor = 9.81
10 to	18.17	1.049	0.0	13.500	11.117		K Factor @ node DRP
11	18.17	0.1090	0.0	0.0	0.0		Vel = 6.75

Final Calculations - Standard

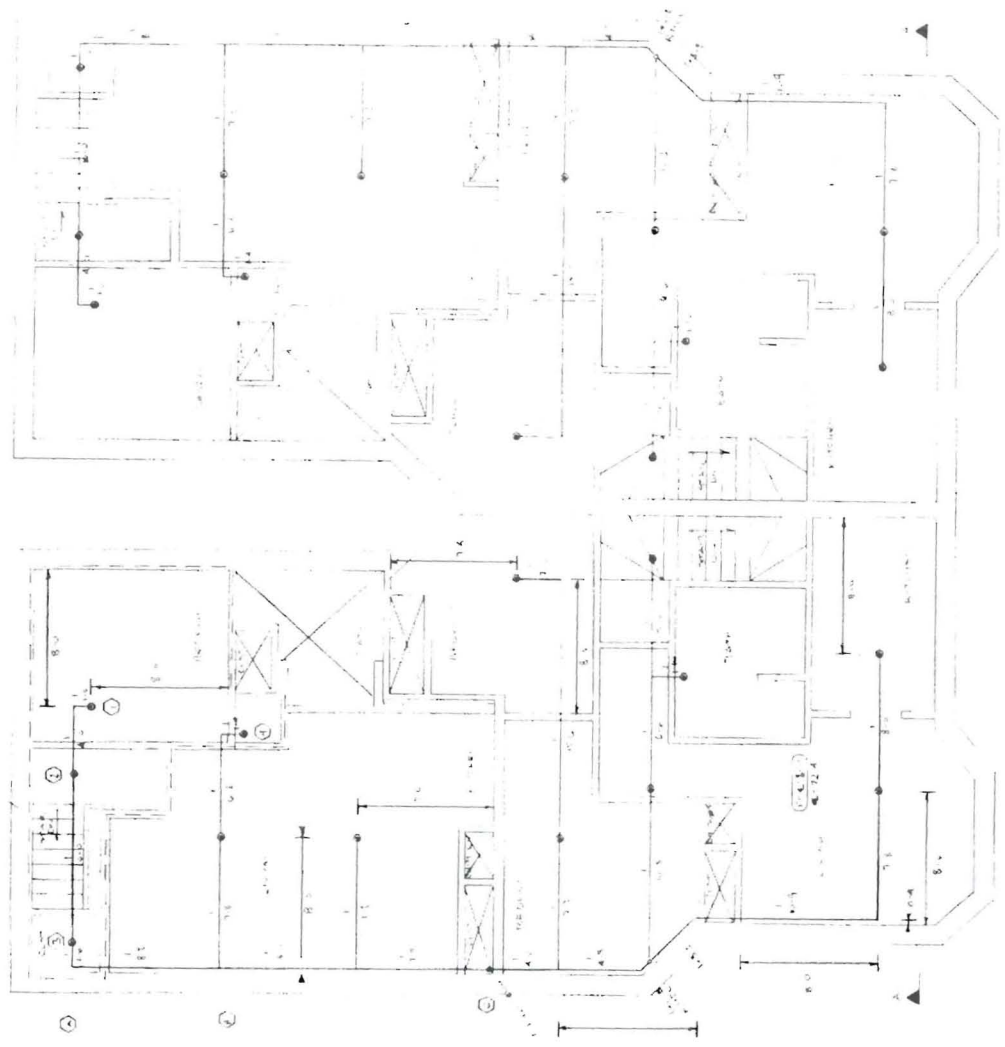
Sprinkler Systems, Inc.
127-129 York St.

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Date 3-18-2011

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv. Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	***** Notes *****
11	19.33	1.38	1E 3.0	6.417	12.588		K Factor @ node DRP
to		120	0.0	3.000	0.0		
HT	37.5	0.1095	0.0	9.417	1.031		Vel = 8.04
HT	0.0	1.38	1T 6.0	0.500	13.619		
to		120	0.0	6.000	0.217		
H	37.5	0.1094	0.0	6.500	0.711		Vel = 8.04
	0.0						
	37.50				14.547		K Factor = 9.83
12	19.47	1.049	0.0	6.000	13.085		K Factor @ node DRP1
to		120	0.0	0.0	0.0		
13	19.47	0.1238	0.0	6.000	0.743		Vel = 7.23
13	20.01	1.38	0.0	13.167	13.828		K Factor @ node DRP1
to		120	0.0	0.0	0.0		
14	39.48	0.1205	0.0	13.167	1.586		Vel = 8.47
14	21.14	1.38	1E 3.0	0.667	15.414		K Factor @ node DRP1
to		120	0.0	3.000	0.0		
LT	60.62	0.2662	0.0	3.667	0.976		Vel = 13.00
LT	0.0	1.38	1T 6.0	0.500	16.390		
to		120	0.0	6.000	0.217		
L	60.62	0.2662	0.0	6.500	1.730		Vel = 13.00
	0.0						
	60.62				18.337		K Factor = 14.16
15	24.09	1.38	1E 3.0	6.417	19.547		K Factor @ node DRP
to		120	0.0	3.000	0.0		
JT	24.09	0.0483	0.0	9.417	0.455		Vel = 5.17
JT	0.0	1.38	1T 6.0	0.500	20.002		
to		120	0.0	6.000	0.217		
J	24.09	0.0482	0.0	6.500	0.313		Vel = 5.17
	0.0						
	24.09				20.532		K Factor = 5.32
E	18.12	1.61	0.0	1.750	12.009		
to		120	0.0	0.0	0.0		
F	18.12	0.0131	0.0	1.750	0.023		Vel = 2.86
F	33.76	1.61	0.0	6.000	12.032		
to		120	0.0	0.0	0.0		
G	51.88	0.0943	0.0	6.000	0.566		Vel = 8.18
G	34.82	1.61	0.0	8.000	12.598		
to		120	0.0	0.0	0.0		
H	86.7	0.2436	0.0	8.000	1.949		Vel = 13.66
H	37.50	1.61	0.0	7.333	14.547		
to		120	0.0	0.0	0.0		
D	124.2	0.4737	0.0	7.333	3.474		Vel = 19.57

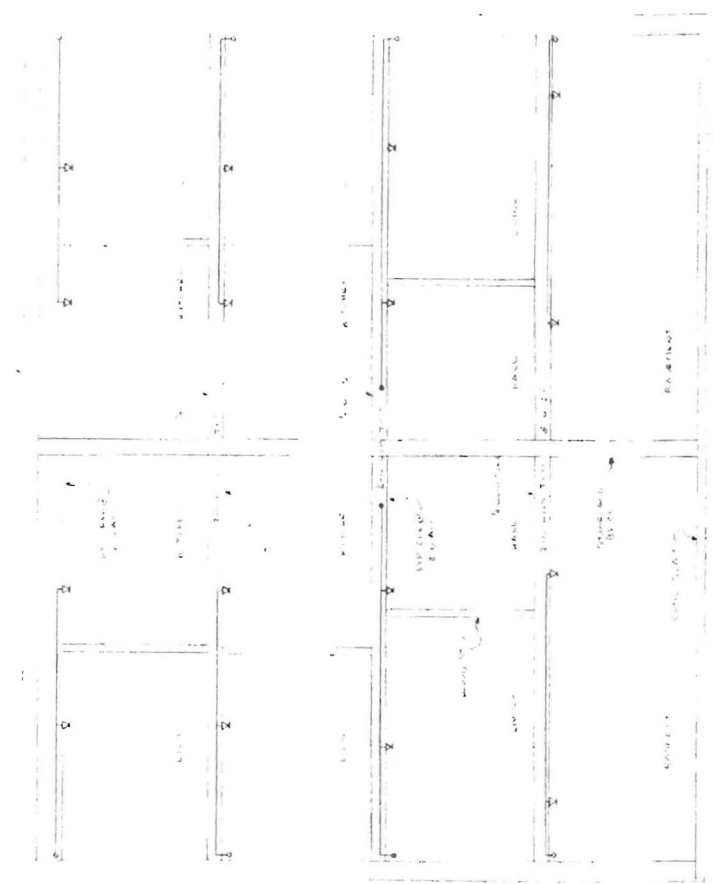
- 1. ALL WORK TO BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.
- 2. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE LOCAL FIRE DEPARTMENT.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL FIRE DEPARTMENT AND THE LOCAL HEALTH DEPARTMENT.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND STRUCTURES ON THE SITE.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING PLUMBING AND ELECTRICAL SYSTEMS.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING STRUCTURAL MEMBERS.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING FINISHES.
- 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING EQUIPMENT.
- 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING DATA.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING RECORDS.

DESIGN: ALEX. J. ...
 DRAWN: ...
 CHECKED: ...



2450 ...
 ...

...
 ...



SPRINKLER SYSTEMS INC.
 100 ...
 ...

PERMIT
 ...

NO.	DATE	DESCRIPTION	REVISIONS
1
2
3
4
5
6
7
8
9
10

CONTRACT WITH ...
 SYSTEM TYPE ...
 WET ...
 DRY ...
 DELUGED ...
 PREACTION ...
 WET ...

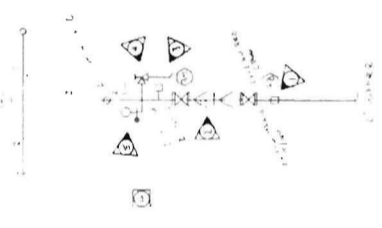
GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE CITY OF PORTLAND FIRE DEPARTMENT SPECIFICATIONS FOR SPRINKLER SYSTEMS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF PORTLAND FIRE DEPARTMENT.
3. ALL MATERIALS AND EQUIPMENT SHALL BE APPROVED BY THE CITY OF PORTLAND FIRE DEPARTMENT BEFORE INSTALLATION.
4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EXISTING UTILITIES AND SERVICES AT ALL TIMES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING STRUCTURES AND FINISHES.
6. ALL WORK SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME.
7. THE CONTRACTOR SHALL MAINTAIN A NEAT AND ORDERLY WORK SITE AT ALL TIMES.
8. ALL MATERIALS AND EQUIPMENT SHALL BE STORED PROPERLY ON THE JOB SITE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF PORTLAND FIRE DEPARTMENT.
10. ALL WORK SHALL BE IN ACCORDANCE WITH THE CITY OF PORTLAND FIRE DEPARTMENT SPECIFICATIONS FOR SPRINKLER SYSTEMS.

NOTES

1. SEE PLAN FOR LOCATION OF SPRINKLER HEADS.
2. SEE PLAN FOR LOCATION OF SPRINKLER RISERS.
3. SEE PLAN FOR LOCATION OF SPRINKLER VALVES.
4. SEE PLAN FOR LOCATION OF SPRINKLER PIPING.
5. SEE PLAN FOR LOCATION OF SPRINKLER MANHOLES.
6. SEE PLAN FOR LOCATION OF SPRINKLER TEST COCKS.
7. SEE PLAN FOR LOCATION OF SPRINKLER AIR RELEASE VALVES.
8. SEE PLAN FOR LOCATION OF SPRINKLER DRAIN VALVES.
9. SEE PLAN FOR LOCATION OF SPRINKLER SHUT-OFF VALVES.
10. SEE PLAN FOR LOCATION OF SPRINKLER SIGNALING DEVICES.

DATE: 10/15/2011
 DRAWN BY: J. SMITH
 CHECKED BY: M. JONES



- SPRINKLER HEAD LEGEND**
- | SYMBOL | MAKE | MODEL | FINISH | TYPE | TEMP | RPT | ORBIT | TOTAL | FACTOR | DATE SENT | DATE RECEIVED |
|--------|------|---------|--------|------|------|-----|-------|-------|--------|-----------|---------------|
| ⊙ | TYCO | TK-AD-1 | 1.5" | ES | 155 | | | 10 | 1.0 | 10/15/11 | 10/15/11 |
| ⊙ | TYCO | TK-AD-1 | 1.5" | ES | 155 | | | 10 | 1.0 | 10/15/11 | 10/15/11 |
| ⊙ | TYCO | TK-AD-1 | 1.5" | ES | 155 | | | 10 | 1.0 | 10/15/11 | 10/15/11 |
| ⊙ | TYCO | TK-AD-1 | 1.5" | ES | 155 | | | 10 | 1.0 | 10/15/11 | 10/15/11 |
| ⊙ | TYCO | TK-AD-1 | 1.5" | ES | 155 | | | 10 | 1.0 | 10/15/11 | 10/15/11 |
| ⊙ | TYCO | TK-AD-1 | 1.5" | ES | 155 | | | 10 | 1.0 | 10/15/11 | 10/15/11 |
| ⊙ | TYCO | TK-AD-1 | 1.5" | ES | 155 | | | 10 | 1.0 | 10/15/11 | 10/15/11 |
| ⊙ | TYCO | TK-AD-1 | 1.5" | ES | 155 | | | 10 | 1.0 | 10/15/11 | 10/15/11 |
| ⊙ | TYCO | TK-AD-1 | 1.5" | ES | 155 | | | 10 | 1.0 | 10/15/11 | 10/15/11 |
| ⊙ | TYCO | TK-AD-1 | 1.5" | ES | 155 | | | 10 | 1.0 | 10/15/11 | 10/15/11 |

SPRINKLER SYSTEMS INC.
 100 BOX 1000
 LEWISTON, MAINE 04240

PERMIT # _____
 LICENSE # 033
 EXPIRES 12/31/11

SUBMITTALS

SENT TO	DATE SENT	DATE RECEIVED
1. CITY OF PORTLAND		
2. STATE OF MAINE		
3. LOCAL WATER		
4. OTHER		

SPRINKLER HEAD LEGEND

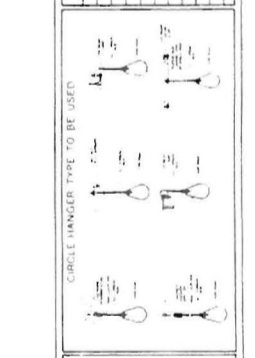
SYMBOL	MAKE	MODEL	FINISH	TYPE	TEMP	RPT	ORBIT	TOTAL	FACTOR
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0

MANIFOLD

SYMBOL	MAKE	MODEL	FINISH	TYPE	TEMP	RPT	ORBIT	TOTAL	FACTOR
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0

WANGERS

SYMBOL	MAKE	MODEL	FINISH	TYPE	TEMP	RPT	ORBIT	TOTAL	FACTOR
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0
⊙	TYCO	TK-AD-1	1.5"	ES	155			10	1.0



FOR THE CONTRACTOR'S USE ONLY

DATE: 10/15/2011
 DRAWN BY: J. SMITH
 CHECKED BY: M. JONES

SCALE

SCALE: 1/4" = 1'-0"

DATE: 10/15/2011
 DRAWN BY: J. SMITH
 CHECKED BY: M. JONES

CONTRACT WITH OWNER

CONTRACT NO: 100-1000
 DATE: 10/15/2011
 TOTAL SPRINKLER HEADS: 12
 SHEET: 1 OF 3
 JOB: 100-1000