DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING PERMIT

This is to certify that
SPRINKLER SYSTEMS, INC.
PO BOX 1285
LEWISTON, ME 04243

For installation at
24 TORREY ST
SINGLE-FAMILY HOME

Job ID: 2012-01-3084-FAFS

CBL: 156- C-004-001

has permission install to install an NFPA 13D 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

Bgarrett 5/8

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.**

Final Fire

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 OCCUPIED.

PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • www.portlandmaine.gov

Director of Planning and Urban Development
Penny St. Louis

Job ID: 2012-01-3084-FAFS
install an NFPA 13D sprinkler system

For installation at:
24 TORREY ST
SINGLE-FAMILY HOME

CBL: 156- C-004-001

Conditions of Approval:

Fire

The sprinkler system shall be installed in accordance with NFPA 13D. A compliance letter is required. All control valves shall be supervised in accordance with NFPA 13D. Pad locks shall only be installed on valves designed to be secured in the open position by pad lock.

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:	
2012-01-3084-FAFS	**1/11/2012**	**156- C-004-001**	
Location of Construction: **24 TORREY ST/23BAY STREET**	Owner Name: **CATHERINE & ANGUS KING, III**	Owner Address: **22 FESSENDEN ST PORTLAND, ME 04103**	Phone:
Business Name:	Contractor Name: **Sprinkler Systems Inc.**	Contractor Address: **PO Box 1285, Lewiston, ME 04243**	Phone: **207-782-0104**
Lessee/Buyer's Name:	Phone:	Permit Type: **FIRE ALARM - Fire Alarm**	Zone: **R-3**
Past Use: New single family – 2011-07-1749	Proposed Use: Same – new single family – install water based fire suppression system	Cost of Work: **2000.00**	CEO District:
		Fire Dept: ✓ Approved w/ conditions ___ Denied ___ N/A Signature: BJ (58)	Inspection: Use Group: Type: Signature:
Proposed Project Description: **water based fire suppression system**		Pedestrian Activities District (P.A.D.)	
Permit Taken By:		**Zoning Approval**	

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.

Special Zone or Reviews	**Zoning Appeal**	**Historic Preservation**
___ Shoreland	___ Variance	✓ Not in Dist or Landmark
___ Wetlands	___ Miscellaneous	___ Does not Require Review
___ Flood Zone	___ Conditional Use	___ Requires Review
___ Subdivision	___ Interpretation	___ Approved
___ Site Plan	___ Approved	___ Approved w/Conditions
___ Maj ___ Min ___ MM	___ Denied	___ Denied
Date: OK 1/13/12 ABM	Date:	Date: ABM

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 PHONE

R-3 renewing family 2011-07-1749

2012 01 3084

66

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: 23 Bay Street / 24 Tolley CBL: 156 C004

Exact location: (within structure) Entire

Type of occupancy(s) (NFPA & ICC): Residential - Single family dwelling

Building owner: Angus King III

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

Supervisor phone: 207-775-1521 E-mail: scottg@sprinklersystemsinc.cor

Installing contractor: Sprinkler Systems Inc. License No: 093

Contractor phone: 207-782-0104 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-D 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: $2,000.00

PERMIT FEE: $40.00

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

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: 1-10-2012

RECEIVED

JAN 11 2012

Dept. of Building Inspections
City of Portland Maine

Sprinkler Systems, Inc.

P.O. Box 1285
Lewiston, ME 04243-1285

Letter of Transmittal

DATE	JOB #
12-9-11	11083

ATTENTION: INSPECTIONS

RE: KING RESIDENCE
23 BOY STREET
PORTLAND, ME

TO: CITY OF PORTLAND
INSPECTIONS, RM 315
390 CONGRESS ST.
PORTLAND, ME 04101

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 ☑ SEE BELOW

COPIES	DATE	NO.	DESCRIPTION
1c	12-9-11	1 of 1	SPRINKLER SHOP DRAWING
1e	12-9-11	13 PGS	HYDRAULIC CALCULATIONS PACKAGE
1e	12-16-11	9790	STATE OF MAINE SPRINKLER PERMIT
1e	1-10-12	—	PORTLAND PERMIT APPLICATION
1e	11-30-11	—	FLOW TEST MAP
1e	1/4/12	2640	$ 40.00 PORTLAND PERMIT CHECK
1e	12-9-11	1 of 1	11x17 SPRINKLER DRWG

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:

PLANS & CALCS HAVE BEEN SUBMITTED TO STATE FIRE MARSHAL & CITY OF PORTLAND FOR APPROVALS / PERMITS

THANK YOU,
SCOTT E. GAUVREAU SET, RMS

SIGNED: _____

PROJ. MGR.

State of Maine
Department of Public Safety
Fire Sprinkler System Permit

9790

King Residence

Located at: 23 Bay Street
In the Town of: Portland
Occupancy/Use: Single Family Residence
Type of System: NFPA 13D

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 # **2111454** , 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 **12/16/2011** for a fee paid of **$25.00**

This permit will expire at midnight on ***Wednesday, June 13, 2012***

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: _____

CITY OF PORTLAND, MAINE
Department of Building Inspections

Original Receipt

Jan. 11 20 12

Received from [illegible] Tim

Location of Work 24 Tracy St / 23 Bay St

Cost of Construction $_____ Building Fee:_____

Permit Fee $_____ Site Fee: _____

Certificate of Occupancy Fee: _____

Total: _____

Building (IL) ___ Plumbing (I5) ___ Electrical (I2) ___ Site Plan (U2) ___

Other _____ Brick Steps

CBL: 1F6 C004

Check #: 27646 **Total Collected $** 40.00

No work is to be started until permit issued.
Please keep original receipt for your records.

Taken by: [signature]

WHITE - Applicant's Copy
YELLOW - Office Copy
PINK - Permit Copy

. . . Fire Protection by Computer Design

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

Job Name : KING RESIDENCE
Building :
Location : 23 BAY STREET, PORTLAND, MAINE 04103
System : 1 OF 1
Contract : 11083
Data File : KINGRES111083.wxf

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
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
Z	Generic Flow Switch	2	2	2	3	4	5	6	7	8	10	12	14	18	22	27	35	40	45	50	61

Units Summary

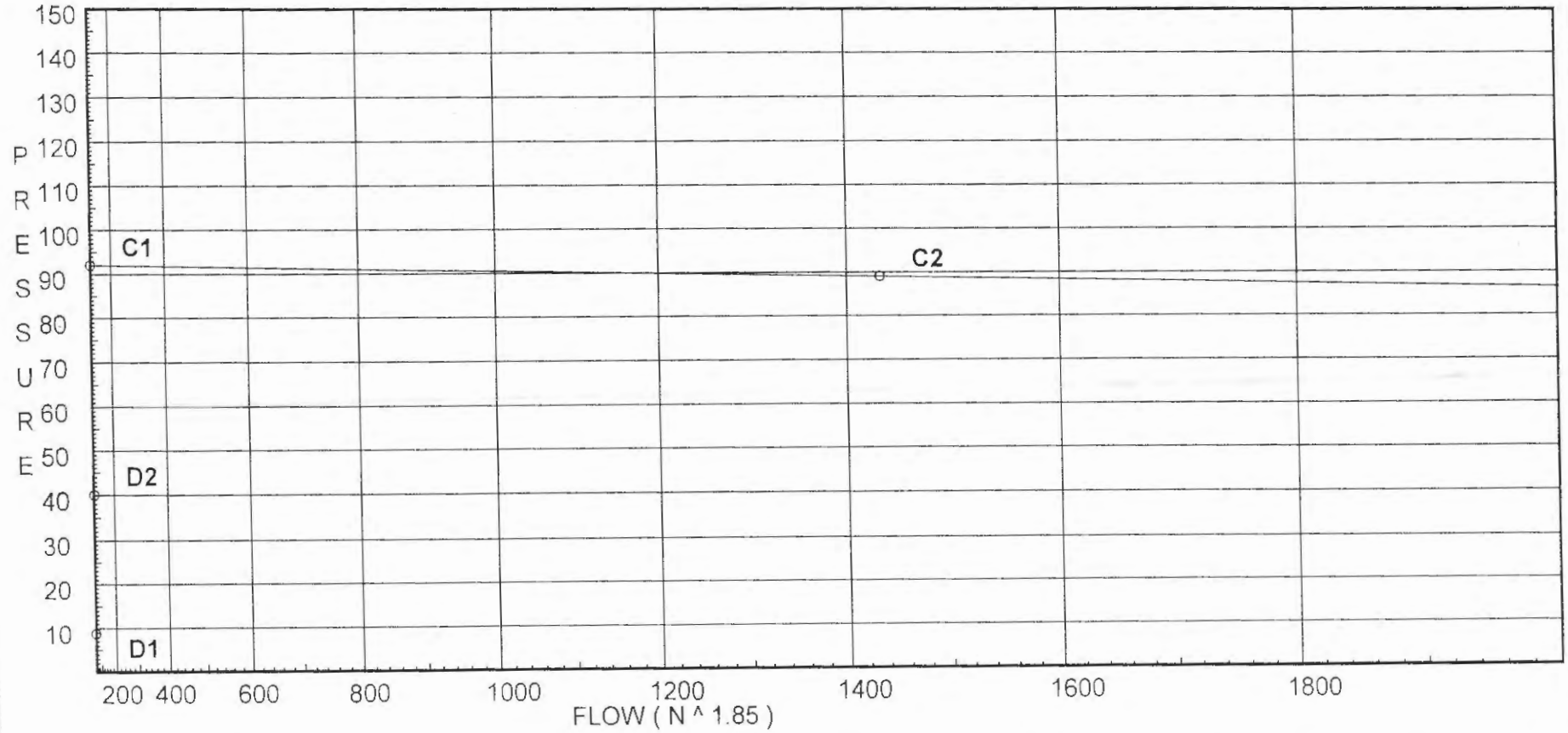
Diameter Units	Inches
Length Units	Feet
Flow Units	US Gallons per Minute
Pressure Units	Pounds per Square Inch

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	13.00	1.101	1T	9.563	0.500	7.039		K Factor = 4.90
to		150		0.0	9.562	0.0		
DROP	13.0	0.0306		0.0	10.062	0.308		Vel = 4.38
	0.0							
	13.00					7.347		K Factor = 4.80
1	13.00	1.101		0.0	5.000	7.347		K Factor @ node DROP
to		150		0.0	0.0	0.0		
2	13.0	0.0308		0.0	5.000	0.154		Vel = 4.38
2	13.13	1.101	1T	9.563	4.000	7.501		K Factor @ node DROP
to		150		0.0	9.562	0.0		
A	26.13	0.1116		0.0	13.562	1.513		Vel = 8.81
A	0.0	1.101	1E	3.825	14.250	9.014		
to		150	1T	9.563	13.387	4.620		
B	26.13	0.1116		0.0	27.637	3.085		Vel = 8.81
B	0.0	1.101	1T	9.563	8.083	16.719		
to		150		0.0	9.562	0.0		
C	26.13	0.1116		0.0	17.645	1.969		Vel = 8.81
C	0.0	1.101	1E	3.825	24.250	18.688		
to		150	1T	9.563	13.387	0.0		
D	26.13	0.1116		0.0	37.637	4.201		Vel = 8.81
D	0.0	1.101	1E	3.825	20.583	22.889		
to		150		0.0	3.825	0.0		
E	26.13	0.1116		0.0	24.408	2.725		Vel = 8.81
E	0.0	1.101	1E	3.825	1.417	25.614		
to		150		0.0	3.825	0.0		
RT	26.13	0.1116		0.0	5.242	0.585		Vel = 8.81
RT	0.0	1.38	1Z	3.0	8.500	26.199		
to		120		0.0	3.000	8.681		* Fixed loss = 5
RB	26.13	0.0562		0.0	11.500	0.646		Vel = 5.60
RB	0.0	1.314	1E	2.247	80.000	35.526		
to		150	1T	4.495	6.742	0.0		
X	26.13	0.0472		0.0	86.742	4.091		Vel = 6.18
X	0.0	6.16	1T	43.037	360.000	39.617		
to		140		0.0	43.037	0.0		
X1	26.13	0.0		0.0	403.037	0.012		Vel = 0.28
X1	0.0	12.34	1T	93.767	390.000	39.629		
to		140		0.0	93.767	0.0		
X2	26.13	0.0		0.0	483.767	0.001		Vel = 0.07
X2	0.0	6.16		0.0	30.000	39.630		
to		140		0.0	0.0	0.433		
TEST	26.13	0.0		0.0	30.000	0.001		Vel = 0.28
	0.0							

City Water Supply:
- C1 - Static Pressure : 92
- C2 - Residual Pressure: 89
- C2 - Residual Flow : 1433

Demand:

D1 - Elevation	:	8.734
D2 - System Flow	:	26.1349
D2 - System Pressure	:	40.064
Hose (Adj City)	:	
Hose (Demand)	:	
D3 - System Demand	:	26.1349
Safety Margin	:	51.935



HYDRAULIC DESIGN INFORMATION SHEET

Name - KING RESIDENCE
Location - 23 BAY STREET, PORTLAND, MAINE 04103
Building -
Contractor - REDFERN PROPERTIES
Calculated By - SCOTT E. GARLAND
Construction: (X) Combustible ( ) Non-Combustible
OCCUPANCY - RESIDENTIAL - SINGLE FAMILY DWELLING

Date - 12-9-2011
System No. - 1 OF 1
Contract No. - 11083
Drawing No. - 1 OF 1
Ceiling Height 7-6

SYSTEM DESIGN

Type of Calculation: ( )NFPA 13 Residential ( )NFPA 13R (X)NFPA 13D
Number of Sprinklers Flowing: ( )1 (X)2 ( )4 ( )
( )Other
( )Specific Ruling Made by Date

Listed Flow at Start Point - 20.0 Gpm
Listed Pres. at Start Point - 16.7 Psi
MAXIMUM LISTED SPACING 20 x 20
Domestic Flow Added - Gpm
Additional Flow Added - Gpm
Elevation at Highest Outlet - 68.167Feet
Note:
DESIGN AREA #2 - 2ND FLOOR STORAGE AREA

System Type
(X) Wet ( ) Dry
( ) Deluge ( ) PreAction
Sprinkler or Nozzle
Make RELIABLE Model RFC49
Size 1/2 X 1/2 K-Factor 4.9
Temperature Rating 165 DEG

Calculation Summary: Gpm Required 40.514 Psi Required 47.230 AT BASE OF RISER
C-Factor Used: Overhead 150 Underground 140

WATER SUPPLY

Water Flow Test:
Date of Test - 7-28-2004
Time of Test -
Static (Psi) - 92
Residual (Psi) - 89
Flow (Gpm) - 1433
Elevation - 50.0

Pump Data:
Rated Cap.
@ Psi
Elev.
Other

Tank or Reservoir:
Cap.
Elev.

Well
Proof Flow Gpm

Location: ON OCEAN AVENUE AT READ STREET, 390-0 FROM BAY STREET

Source of Information: PORTLAND WATER DISTRICT

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	20.02	1.101	1T	9.563	0.500	16.700		K Factor = 4.90
to		150		0.0	9.562	0.0		
DROP	20.02	0.0682		0.0	10.062	0.686		Vel = 6.75
	0.0							
	20.02					17.386		K Factor = 4.80
3	20.02	1.101		0.0	12.000	17.386		K Factor @ node DROP
to		150		0.0	0.0	0.0		
4	20.02	0.0682		0.0	12.000	0.818		Vel = 6.75
4	20.49	1.101		0.0	6.000	18.204		K Factor @ node DROP
to		150		0.0	0.0	0.0		
F	40.51	0.2512		0.0	6.000	1.507		Vel = 13.65
F	0.0	1.101	4E	15.3	24.167	19.711		
to		150	1T	9.563	24.863	3.754		
E	40.51	0.2512		0.0	49.030	12.314		Vel = 13.65
E	0.0	1.101	1E	3.825	1.417	35.779		
to		150		0.0	3.825	0.0		
RT	40.51	0.2512		0.0	5.242	1.317		Vel = 13.65
RT	0.0	1.38	1Z	3.0	8.500	37.096		
to		120		0.0	3.000	8.681		* Fixed loss = 5
RB	40.51	0.1263		0.0	11.500	1.453		Vel = 8.69
RB	0.0	1.314	1E	2.247	80.000	47.230		
to		150	1T	4.495	6.742	0.0		
X	40.51	0.1061		0.0	86.742	9.207		Vel = 9.58
X	0.0	6.16	1T	43.037	360.000	56.437		
to		140		0.0	43.037	0.0		
X1	40.51	0.0001		0.0	403.037	0.026		Vel = 0.44
X1	0.0	12.34	1T	93.767	390.000	56.463		
to		140		0.0	93.767	0.0		
X2	40.51	0.0		0.0	483.767	0.001		Vel = 0.11
X2	0.0	6.16		0.0	30.000	56.464		
to		140		0.0	0.0	0.433		
TEST	40.51	0.0001		0.0	30.000	0.002		Vel = 0.44
	0.0							
	40.51					56.899		K Factor = 5.37

0 140 280 560 840 1,120 Feet

1 inch = 200 feet

PORTLAND WATER DISTRICT
[redacted] Douglass Street
Portland, ME 04104

Asset Management and Planning Dept.

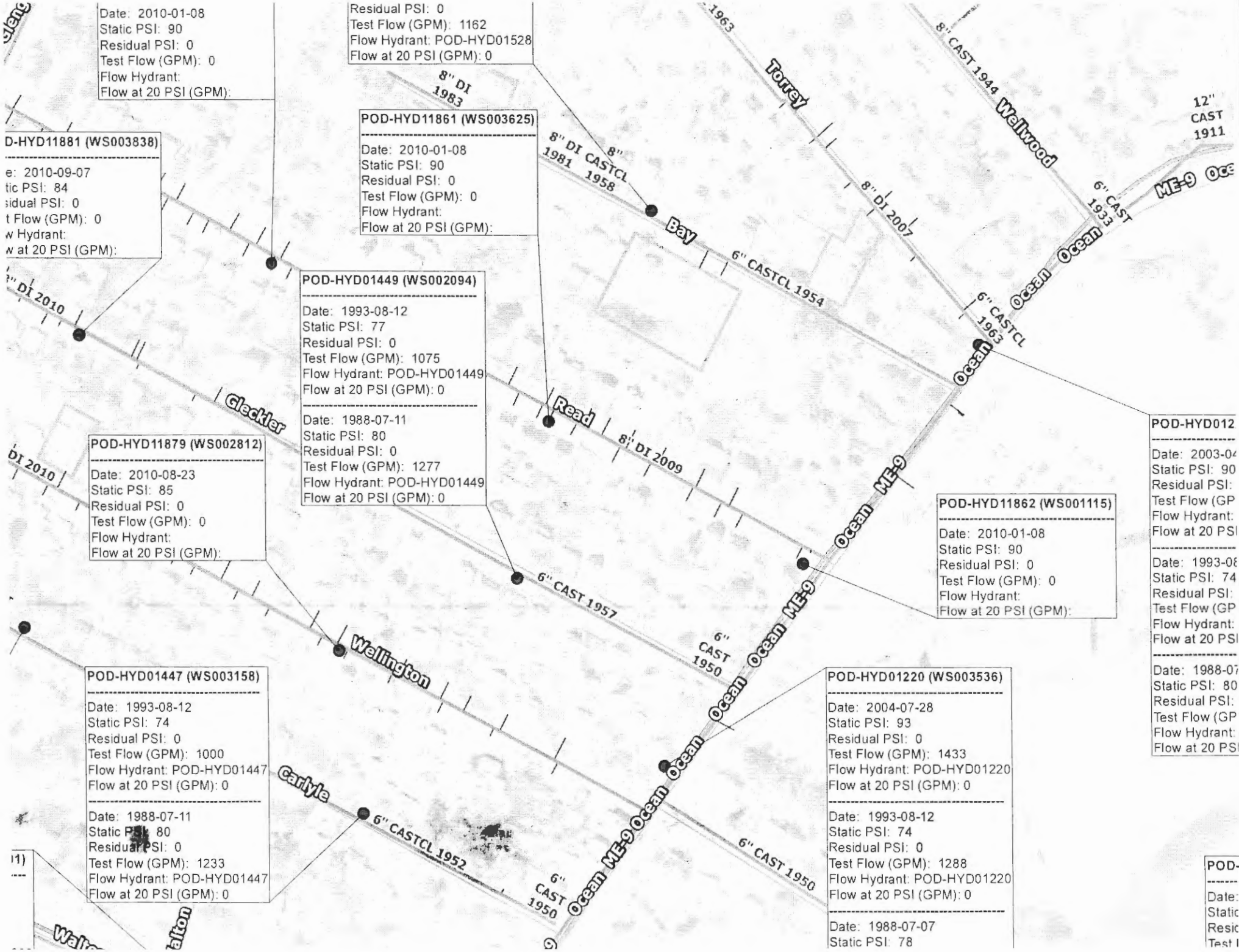
Drawn By: SBM
Date: 11-30-11
Prepa[redacted]
Sprinkler systems Inc.

This map depicts flow testing data for the selected hydrants from PWD's asset management system. [redacted] static pressure with a zero [redacted] pressu[redacted] flow hydrant that is the sam[redacted]e te[redacted] hydrant depicts a single-hydrant static pressure only test.

Hydrant Flow Testing Data

[redacted] [redacted]d

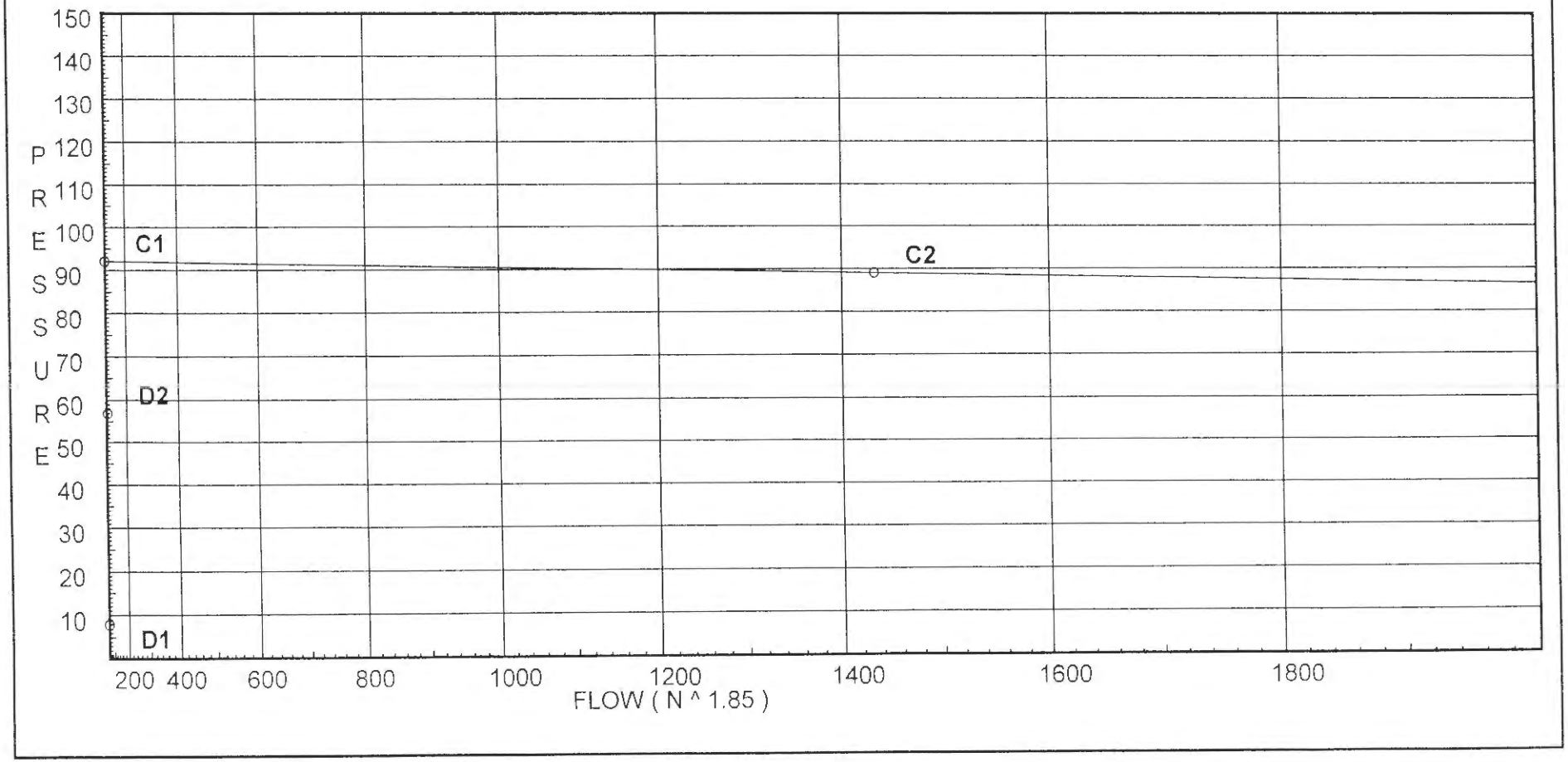
[redacted]heet No. 1 OF 1


Date: 2010-01-08
Static PSI: 90
Residual PSI: 0
Test Flow (GPM): 0
Flow Hydrant:
Flow at 20 PSI (GPM):
Residual PSI: 0
Test Flow (GPM): 1162
Flow Hydrant: POD-HYD01528
Flow at 20 PSI (GPM): 0
8" DI 1983
POD-HYD11861 (WS003625)
Date: 2010-01-08
Static PSI: 90
Residual PSI: 0
Test Flow (GPM): 0
Flow Hydrant:
Flow at 20 PSI (GPM):
8" DI CASTCL 1981 1958
Torrey
8" DI 2007
8" CAST 1944 Wellwood
12" CAST 1911
6" CAST 1933
ME-9
Ocean
Bay
6" CASTCL 1954
6" CASTCL 1963
Ocean
POD-HYD11881 (WS003838)
e: 2010-09-07
tic PSI: 84
idual PSI: 0
t Flow (GPM): 0
w Hydrant:
w at 20 PSI (GPM):
" DI 2010
POD-HYD01449 (WS002094)
Date: 1993-08-12
Static PSI: 77
Residual PSI: 0
Test Flow (GPM): 1075
Flow Hydrant: POD-HYD01449
Flow at 20 PSI (GPM): 0
Date: 1988-07-11
Static PSI: 80
Residual PSI: 0
Test Flow (GPM): 1277
Flow Hydrant: POD-HYD01449
Flow at 20 PSI (GPM): 0
Read
8" DI 2009
Gleckler
POD-HYD11879 (WS002812)
Date: 2010-08-23
Static PSI: 85
Residual PSI: 0
Test Flow (GPM): 0
Flow Hydrant:
Flow at 20 PSI (GPM):
DI 2010
POD-HYD11862 (WS001115)
Date: 2010-01-08
Static PSI: 90
Residual PSI: 0
Test Flow (GPM): 0
Flow Hydrant:
Flow at 20 PSI (GPM):
POD-HYD012
Date: 2003-04
Static PSI: 90
Residual PSI:
Test Flow (GP
Flow Hydrant:
Flow at 20 PSI
Date: 1993-08
Static PSI: 74
Residual PSI:
Test Flow (GP
Flow Hydrant:
Flow at 20 PSI
Date: 1988-07
Static PSI: 80
Residual PSI:
Test Flow (GP
Flow Hydrant:
Flow at 20 PSI
6" CAST 1957
6" CAST 1950
Ocean ME-9
Wellington
POD-HYD01447 (WS003158)
Date: 1993-08-12
Static PSI: 74
Residual PSI: 0
Test Flow (GPM): 1000
Flow Hydrant: POD-HYD01447
Flow at 20 PSI (GPM): 0
Date: 1988-07-11
Static PSI: 80
Residual PSI: 0
Test Flow (GPM): 1233
Flow Hydrant: POD-HYD01447
Flow at 20 PSI (GPM): 0
Carlyle
6" CASTCL 1952
6" CAST 1950
Ocean ME-9
POD-HYD01220 (WS003536)
Date: 2004-07-28
Static PSI: 93
Residual PSI: 0
Test Flow (GPM): 1433
Flow Hydrant: POD-HYD01220
Flow at 20 PSI (GPM): 0
Date: 1993-08-12
Static PSI: 74
Residual PSI: 0
Test Flow (GPM): 1288
Flow Hydrant: POD-HYD01220
Flow at 20 PSI (GPM): 0
Date: 1988-07-07
Static PSI: 78
POD-
Date:
Static
Resid
Test

City Water Supply:
- C1 - Static Pressure : 92
- C2 - Residual Pressure: 89
- C2 - Residual Flow : 1433

Demand:

D1 - Elevation	:	7.868
D2 - System Flow	:	40.5141
D2 - System Pressure	:	56.899
Hose (Adj City)	:	
Hose (Demand)	:	
D3 - System Demand	:	40.5141
Safety Margin	:	35.097



Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
TYP	0.0	4.9	16.7	na	20.02	0.05	400	16.7
3	68.167	K = K @ DROP	17.39	na	20.02			
4	68.167	K = K @ DROP	18.2	na	20.49			
F	68.167		19.71	na				
E	59.5		35.78	na				
RT	59.5		37.1	na				
RB	51.0		47.23	na				
X	51.0		56.44	na				
X1	51.0		56.46	na				
X2	51.0		56.46	na				
TEST	50.0		56.9	na				

The maximum velocity is 13.65 and it occurs in the pipe between nodes 4 and F

. . . Fire Protection by Computer Design

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

Job Name : KING RESIDENCE
Building :
Location : 23 BAY STREET, PORTLAND, MAINE 04103
System : 1 OF 1
Contract : 11083
Data File : KINGRES211083.wxf

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv. Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	*******	Notes ******
	26.13			40.064			K Factor = 4.13	

Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
TYP	0.0	4.9	7.04	na	13.0	0.05	260	7.0
1	70.167	K = K @ DROP	7.35	na	13.0			
2	70.167	K = K @ DROP	7.5	na	13.13			
A	70.167		9.01	na				
B	59.5		16.72	na				
C	59.5		18.69	na				
D	59.5		22.89	na				
E	59.5		25.61	na				
RT	59.5		26.2	na				
RB	51.0		35.53	na				
X	51.0		39.62	na				
X1	51.0		39.63	na				
X2	51.0		39.63	na				
TEST	50.0		40.06	na				

The maximum velocity is 8.81 and it occurs in the pipe between nodes 2 and A

HYDRAULIC DESIGN INFORMATION SHEET

Name - KING RESIDENCE
Date - 12-9-2011
Location - 23 BAY STREET, PORTLAND, MAINE 04103
Building -
System No. - 1 OF 1
Contractor - REDFERN PROPERTIES
Contract No. - 11083
Calculated By - SCOTT E. GARLAND
Drawing No. - 1 OF 1
Construction: (X) Combustible ( ) Non-Combustible Ceiling Height 9-8
OCCUPANCY - RESIDENTIAL - SINGLE FAMILY DWELLING

SYSTEM DESIGN

Type of Calculation: ( )NFPA 13 Residential ( )NFPA 13R (X)NFPA 13D
Number of Sprinklers Flowing: ( )1 (X)2 ( )4 ( )
( )Other
( )Specific Ruling Made by Date

Listed Flow at Start Point - 13.0 Gpm
Listed Pres. at Start Point - 7.0 Psi
MAXIMUM LISTED SPACING 16 x 16
Domestic Flow Added - Gpm
Additional Flow Added - Gpm
Elevation at Highest Outlet - 70.167Feet
Note:
DESIGN AREA #1 - 2ND FLOOR BATHROOM & STAIRS

System Type
(X) Wet ( ) Dry
( ) Deluge ( ) PreAction
Sprinkler or Nozzle
Make RELIABLE Model RFC49
Size 1/2 X 1/2 K-Factor 4.9
Temperature Rating 165 DEG

Calculation Summary: Gpm Required 26.135 Psi Required 35.526 AT BASE OF RISER
C-Factor Used: Overhead 150 Underground 140

WATER SUPPLY

Water Flow Test:		Pump Data:	Tank or Reservoir:
Date of Test	- 7-28-2004	Rated Cap.	Cap.
Time of Test	-	@ Psi	Elev.
Static (Psi)	- 92	Elev.	
Residual (Psi)	- 89	Other	Well
Flow (Gpm)	- 1433		Proof Flow Gpm
Elevation	- 50.0		

Location: ON OCEAN AVENUE AT READ STREET, 390-0 FROM BAY STREET

Source of Information: PORTLAND WATER DISTRICT