DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING PERMIT

This is to certify that HIGH TECH FIRE PROTECTION of PO Box 156, Minot, ME 04258

For installation at 454 COMMERCIAL ST IMT Office Building

Job ID: 2011-12-2924-FAFS

CBL: 043- D-005-001

has permission to install 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

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

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: 2011-12-2924-FAFS
install supervised, automatic sprinkler system

For installation at:
454 COMMERCIAL ST
IMT Office Building

CBL: 043- D-005-001

Conditions of Approval:

Fire

The sprinkler system shall be installed in accordance with NFPA 13.
A separate sprinkler permit is required from the State Fire Marshal's Office.
Sprinkler supervision shall be provided in accordance with NFPA 101, *Life Safety Code*, and NFPA 72, *National Fire Alarm and Signaling Code*.
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 shall be a single 2 ½" per 13:6.8.1.3 with a Knox locking cap.
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.
Private fire mains and fire hydrants shall be maintained, tested and painted in accordance with NFPA 25 and City Code Chapter 10, Art IV.

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:	
2011-12-2924-FAFS	**12/14/2011**	**043- D-005-001**	
Location of Construction: **468 COMMERCIAL ST**	Owner Name: **CITY OF PORTLAND**	Owner Address: **389 CONGRESS ST. PORTLAND, MAINE 04101**	Phone:
Business Name: **International Marine Terminal**	Contractor Name: **High Tech Fire Protection**	Contractor Address: **PO Box 156, Minot, ME 04258-0258**	Phone: **998-2551**
Lessee/Buyer's Name:	Phone:	Permit Type: **Fire Suppression System**	Zone: **WPDZ**
Past Use: **New Office Bldg on site**	Proposed Use: **Same: Office use – to install fire suppression system**	Cost of Work: **$12,000.00**	CEO District:
		Fire Dept: ✓ Approved w/ conditions ___ Denied ___ N/A Signature: Bjandaal Jr. (58)	Inspection: Use Group: Type: Signature:
Proposed Project Description: **wterbased fire suppression system**		Pedestrian Activities District (P.A.D.)	
Permit Taken By: Gayle		**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 12/14/11	Date:	Date:

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

6G

2011 12 2994

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.

466 454 Commercial WPDZ

Installation address: ~~468~~ Commercial St CBL: 043 D 006 & 005

Exact location: (within structure) Portland International Marine Terminal

Type of occupancy(s) (NFPA & ICC): Light Hazard Occupancy Should be where Bldg permit is located 043-D-005

Building owner:

Managing Supervisor (RMS): Ed Poulin License No: 515

Supervisor phone: 207-998-2551 E-mail: epoulin@fairpoint.net

Installing contractor: High Tech Fire Protection License No:

Contractor phone: High Tech Fire Protection 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: 9764

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: $11,554.00

PERMIT FEE: $140.00

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

RECEIVED

By mail

DEC 14 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: Tim Tate Date: 11-15-11

. . . Fire Protection by Computer Design

HIGH TECH FIRE PROTECTION
PO. BOX 156
MINOT, ME 04258-0258
207-998-2551

Job Name	:	Portland Marine Terminal Calc
Building	:	FP-01
Location	:	Congress St
System	:	REMOTE AREA #1
Contract	:	071211-1
Data File	:	Portland Marine Terminal Calc.WXF

HYDRAULIC CALCULATIONS
for

Project name: Portland Marine Terminal Calc
Location: Congress St
Drawing no: FP-01
Date: 10-19-11

Design

Remote area number: REMOTE AREA #1
Remote area location: OFFICE AND CORRIDOR
Occupancy classification: LIGHT HAZARD
Density: .1 - Gpm/SqFt
Area of application: 1125 - SqFt
Coverage per sprinkler: 196 - SqFt
Type of sprinklers calculated: GLOBE MODEL GL5606
No. of sprinklers calculated: 13
In-rack demand: N/A - GPM
Hose streams: 100 - GPM
Total water required (including hose streams): 421 - GPM @ 98 - Psi
Type of system: WET SYSTEM
Volume of dry or preaction system: N/A - Gal

Water supply information

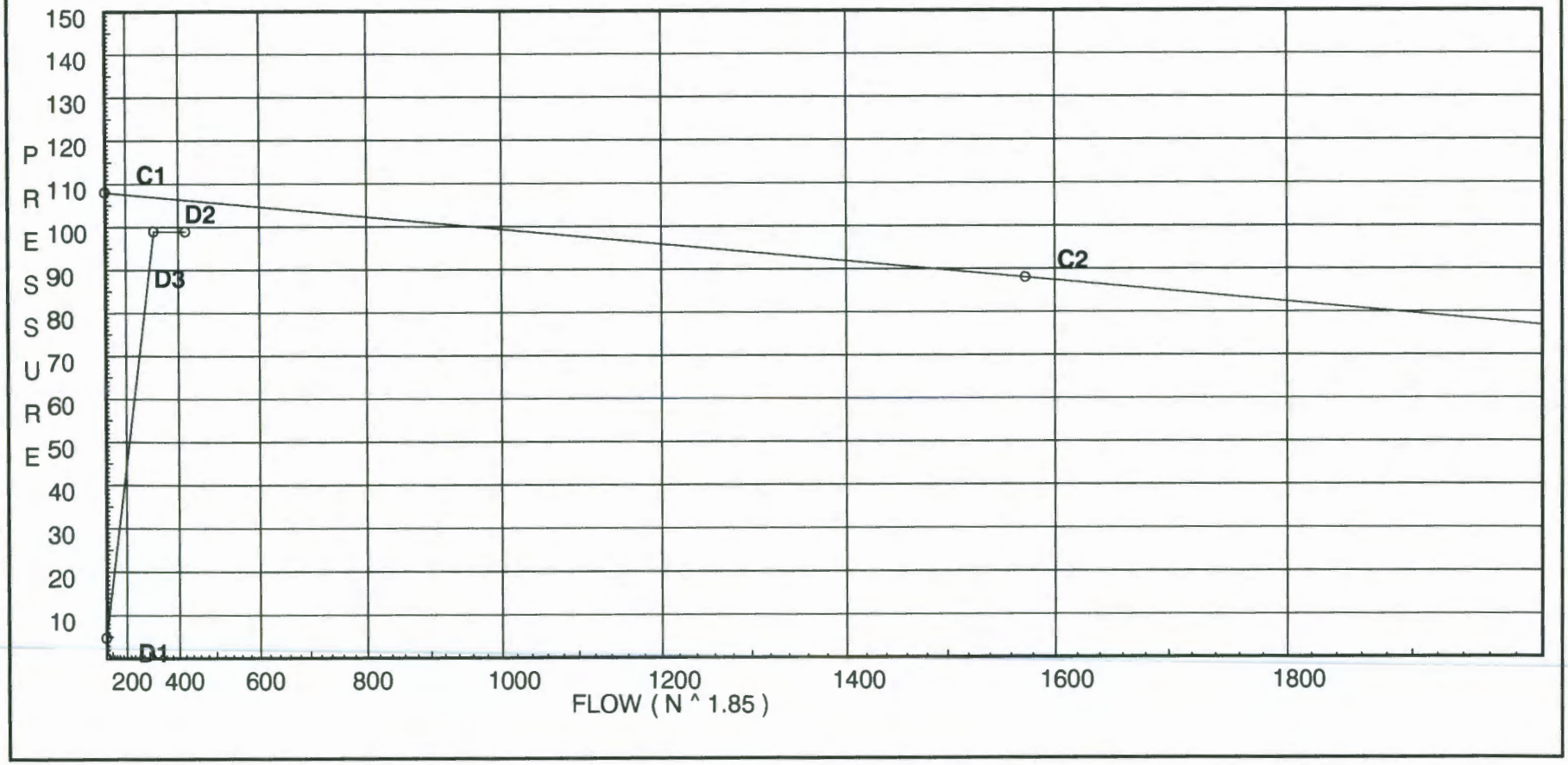
Date:
Location: PORTLAND WATER DEPT.
Source: TWO HYDRANT CALC

Name of contractor: HIGH TECH FIRE PROTECTION
Address: PO. BOX 156 / / MINOT, ME 04258-0258
Phone number: 207-998-2551
Name of designer: TIM FORTIN
Authority having jurisdiction: STATE OF MAINE & CITY OF PORTLAND
Notes: (Include peaking information or gridded systems here.)

City Water Supply:
C1 - Static Pressure : 108
C2 - Residual Pressure: 88
C2 - Residual Flow : 1574

Demand:

D1 - Elevation	:	4.721
D2 - System Flow	:	321.656
D2 - System Pressure	:	98.929
Hose (Adj City)	:	
Hose (Demand)	:	100
D3 - System Demand	:	421.656
Safety Margin	:	7.322



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
Zia	Wilkins 350	Fitting generates a Fixed Loss Based on Flow																			

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.
DP1	-1.0	5.6	12.25	na	19.6	0.1	196	7.0
DP2	-1.0	5.6	12.25	na	19.6	0.1	196	7.0
DP3	-1.0	5.6	12.25	na	19.6	0.1	196	7.0
1	10.9	K = K @ EQ01	12.37	na	19.64			
2	10.9	K = K @ EQ01	12.32	na	19.6			
3	10.9	K = K @ EQ02	13.61	na	20.6			
4	10.9	K = K @ EQ01	16.5	na	22.68			
5	10.9	K = K @ EQ01	19.94	na	24.94			
6	10.9	K = K @ EQ01	22.98	na	26.77			
L1	10.9		12.7	na				
L2	10.9		13.03	na				
L3	10.9		14.39	na				
L4	10.9		17.43	na				
L5	10.9		19.3	na				
L6	10.9		20.61	na				
L7	10.9		21.03	na				
L8	10.9		24.23	na				
10	17.0	K = K @ EQ03	14.34	na	20.83			
11	17.0	K = K @ EQ03	14.32	na	20.82			
12	17.0	K = K @ EQ03	15.7	na	21.8			
13	17.0	K = K @ EQ03	19.94	na	24.57			
L10	17.0		14.7	na				
L11	17.0		15.1	na				
L12	17.0		16.55	na				
L13	17.0		18.62	na				
L14	10.9		23.3	na				
L15	10.9		23.65	na				
20	10.9	K = K @ EQ01	27.6	na	29.34			
21	10.9	K = K @ EQ01	34.63	na	32.86			
22	10.9	K = K @ EQ01	44.43	na	37.22			
M1	10.9		24.69	na				
M2	9.6		26.52	na				
M3	9.6		29.94	na				
M4	9.6		38.84	na				
M5	9.6		52.75	na				
M6	9.6		56.75	na				
M7	9.6		70.13	na				
TOR	9.6		76.25	na				
BOR	2.6		87.99	na				
BAK	0.0		98.06	na				
U1	-5.0		101.0	na				
TEST	0.0		98.93	na	100.0			

The maximum velocity is 30.75 and it occurs in the pipe between nodes M5 and M6

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	19.60	1.049	1E	2.0	2.000	12.250		K Factor = 5.60
to		120.0		0.0	2.000	-0.433		
EQ01	19.6	0.1252		0.0	4.000	0.501		Vel = 7.28
	0.0							
	19.60					12.318		K Factor = 5.58
DP2	19.60	1.049	1E	2.0	2.000	12.250		K Factor = 5.60
to		120.0		0.0	2.000	-0.433		
EQ02	19.6	0.1252		0.0	4.000	0.501		Vel = 7.28
	0.0							
	19.60					12.318		K Factor = 5.58
DP3	19.60	1.049	1T	5.0	2.000	12.250		K Factor = 5.60
to		120.0		0.0	5.000	-0.433		
EQ03	19.6	0.1253		0.0	7.000	0.877		Vel = 7.28
	0.0							
	19.60					12.694		K Factor = 5.50
1	19.64	1.049	1E	2.0	0.650	12.367		K Factor @ node EQ01
to		120.0		0.0	2.000	0.0		
L1	19.64	0.1257		0.0	2.650	0.333		Vel = 7.29
	0.0							
	19.64					12.700		K Factor = 5.51
2	19.60	1.049	1T	5.0	0.700	12.318		K Factor @ node EQ01
to		120.0		0.0	5.000	0.0		
L2	19.6	0.1254		0.0	5.700	0.715		Vel = 7.28
	0.0							
	19.60					13.033		K Factor = 5.43
3	20.60	1.049	1T	5.0	0.700	13.607		K Factor @ node EQ02
to		120.0		0.0	5.000	0.0		
L3	20.6	0.1374		0.0	5.700	0.783		Vel = 7.65
	0.0							
	20.60					14.390		K Factor = 5.43
4	22.68	1.049	1T	5.0	0.700	16.495		K Factor @ node EQ01
to		120.0		0.0	5.000	0.0		
L4	22.68	0.1644		0.0	5.700	0.937		Vel = 8.42
	0.0							
	22.68					17.432		K Factor = 5.43
5	24.94	1.049	1T	5.0	0.600	19.938		K Factor @ node EQ01
to		120.0		0.0	5.000	0.0		
L7	24.94	0.1957		0.0	5.600	1.096		Vel = 9.26
	0.0							
	24.94					21.034		K Factor = 5.44
6	26.77	1.049	1T	5.0	0.600	22.976		K Factor @ node EQ01
to		120.0		0.0	5.000	0.0		
L8	26.77	0.2230		0.0	5.600	1.249		Vel = 9.94

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv.	Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	******* Notes ******
	0.0							
	26.77					24.225		K Factor = 5.44
L1	19.64	1.38		0.0	10.050	12.700		
to		120.0		0.0	0.0	0.0		
L2	19.64	0.0331		0.0	10.050	0.333		Vel = 4.21
L2	19.60	1.38		0.0	11.400	13.033		
to		120.0		0.0	0.0	0.0		
L3	39.24	0.1190		0.0	11.400	1.357		Vel = 8.42
L3	20.60	1.38		0.0	11.700	14.390		
to		120.0		0.0	0.0	0.0		
L4	59.84	0.2600		0.0	11.700	3.042		Vel = 12.84
L4	22.68	1.61	1E	4.0	4.400	17.432		
to		120.0		0.0	4.000	0.0		
L5	82.52	0.2223		0.0	8.400	1.867		Vel = 13.00
L5	0.0	1.61	1E	4.0	1.900	19.299		
to		120.0		0.0	4.000	0.0		
L6	82.52	0.2224		0.0	5.900	1.312		Vel = 13.00
L6	0.0	1.61		0.0	1.900	20.611		
to		120.0		0.0	0.0	0.0		
L7	82.52	0.2226		0.0	1.900	0.423		Vel = 13.00
L7	24.94	1.61	1T	8.0	2.100	21.034		
to		120.0		0.0	8.000	0.0		
M1	107.46	0.3624		0.0	10.100	3.660		Vel = 16.93
	0.0							
	107.46					24.694		K Factor = 21.62
L8	26.77	1.049		0.0	2.100	24.225		
to		120.0		0.0	0.0	0.0		
M1	26.77	0.2233		0.0	2.100	0.469		Vel = 9.94
	0.0							
	26.77					24.694		K Factor = 5.39
10	20.83	1.049	1E	2.0	0.600	14.338		K Factor @ node EQ03
to		120.0		0.0	2.000	0.0		
L10	20.83	0.1400		0.0	2.600	0.364		Vel = 7.73
	0.0							
	20.83					14.702		K Factor = 5.43
11	20.82	1.049	1T	5.0	0.600	14.320		K Factor @ node EQ03
to		120.0		0.0	5.000	0.0		
L11	20.82	0.1400		0.0	5.600	0.784		Vel = 7.73
	0.0							
	20.82					15.104		K Factor = 5.36
12	21.80	1.049	1T	5.0	0.600	15.699		K Factor @ node EQ03
to		120.0		0.0	5.000	0.0		
L12	21.8	0.1527		0.0	5.600	0.855		Vel = 8.09

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv.	Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	******* Notes ******
	0.0							
	21.80					16.554		K Factor = 5.36
13	24.57	1.049	1T	5.0	0.600	19.944		K Factor @ node EQ03
to		120.0		0.0	5.000	2.642		
L15	24.57	0.1904		0.0	5.600	1.066		Vel = 9.12
	0.0							
	24.57					23.652		K Factor = 5.05
L10	20.83	1.38		0.0	10.900	14.702		
to		120.0		0.0	0.0	0.0		
L11	20.83	0.0369		0.0	10.900	0.402		Vel = 4.47
L11	20.82	1.38		0.0	10.900	15.104		
to		120.0		0.0	0.0	0.0		
L12	41.65	0.1330		0.0	10.900	1.450		Vel = 8.93
L12	21.79	1.61	1T	8.0	7.100	16.554		
to		120.0		0.0	8.000	0.0		
L13	63.44	0.1367		0.0	15.100	2.064		Vel = 10.00
L13	0.0	1.61	1T	8.0	6.900	18.618		
to		120.0		0.0	8.000	2.642		
L14	63.44	0.1367		0.0	14.900	2.037		Vel = 10.00
L14	0.0	1.61		0.0	2.600	23.297		
to		120.0		0.0	0.0	0.0		
L15	63.44	0.1365		0.0	2.600	0.355		Vel = 10.00
L15	24.57	1.61	1T	8.0	1.200	23.652		
to		120.0		0.0	8.000	0.563		
M2	88.01	0.2505		0.0	9.200	2.305		Vel = 13.87
	0.0							
	88.01					26.520		K Factor = 17.09
20	29.34	1.049	1T	5.0	1.700	27.602		K Factor @ node EQ01
to		120.0		0.0	5.000	0.563		
M3	29.34	0.2645		0.0	6.700	1.772		Vel = 10.89
	0.0							
	29.34					29.937		K Factor = 5.36
21	32.86	1.049	1T	5.0	6.200	34.628		K Factor @ node EQ01
to		120.0		0.0	5.000	0.563		
M4	32.86	0.3261		0.0	11.200	3.652		Vel = 12.20
	0.0							
	32.86					38.843		K Factor = 5.27
22	37.22	1.049	1E	2.0	11.900	44.426		K Factor @ node EQ01
to		120.0	1T	5.0	7.000	0.563		
M5	37.22	0.4106		0.0	18.900	7.761		Vel = 13.82
	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 ******
	37.22					52.750		K Factor = 5.12
M1	134.22	2.067		0.0	7.800	24.694		
to		120.0		0.0	0.0	0.563		
M2	134.22	0.1619		0.0	7.800	1.263		Vel = 12.83
M2	88.01	2.067		0.0	8.300	26.520		
to		120.0		0.0	0.0	0.0		
M3	222.23	0.4117		0.0	8.300	3.417		Vel = 21.25
M3	29.34	2.067	1V	3.5	13.700	29.937		
to		120.0		0.0	3.500	0.0		
M4	251.57	0.5178		0.0	17.200	8.906		Vel = 24.05
M4	32.87	2.067		0.0	21.400	38.843		
to		120.0		0.0	0.0	0.0		
M5	284.44	0.6499		0.0	21.400	13.907		Vel = 27.20
M5	37.22	2.067		0.0	4.900	52.750		
to		120.0		0.0	0.0	0.0		
M6	321.66	0.8159		0.0	4.900	3.998		Vel = 30.75
M6	0.0	2.067	1X	8.5	4.400	56.748		
to		120.0	1V	3.5	12.000	0.0		
M7	321.66	0.8159		0.0	16.400	13.380		Vel = 30.75
M7	0.0	2.067	1V	3.5	4.000	70.128		
to		120.0		0.0	3.500	0.0		
TOR	321.66	0.8159		0.0	7.500	6.119		Vel = 30.75
TOR	0.0	2.067	1Fsp	0.0	7.000	76.247		
to		120.0		0.0	0.0	6.032		* Fixed loss = 3
BOR	321.66	0.8159		0.0	7.000	5.711		Vel = 30.75
BOR	0.0	2.635	1Zia	0.0	0.100	87.990		
to		120.0		0.0	0.0	10.050		* Fixed loss = 8.924
BAK	321.66	0.2400		0.0	0.100	0.024		Vel = 18.92
BAK	0.0	6.16	2E	40.168	170.000	98.064		
to		140.0	1G	4.304	87.509	2.166		
U1	321.66	0.0030	1T	43.037	257.509	0.774		Vel = 3.46
U1	0.0	9.79	1E	26.131	200.000	101.004		
to		140.0	1T	59.389	85.520	-2.166		
TEST	321.66	0.0003		0.0	285.520	0.091		Vel = 1.37
	100.00							Qa = 100.00
	421.66					98.929		K Factor = 42.39

CITY OF PORTLAND, MAINE
Department of Building Inspections

Original Receipt

D[illegible] 14 2011

Received from [illegible]

Location of Work 16 [illegible]

Cost of Construction $_____ Building Fee:_____

Permit Fee $_____ Site Fee: _____

Certificate of Occupancy Fee: _____

Total: _____

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

Other Fire Suppression

CBL: 042 x 006

Check #: [illegible] **Total Collected $** 14.00

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

Taken by: [illegible]

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