

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK CITY OF PORTLAND

BUILDING INSPECTION

PERMIT

Permit Number: 100098

Please Read Application And Notes, If Any, Attached

This is to certify that E.L.C Inc/Eastern Fire Protection Co., Inc.

has permission to Fire Suppression System

AT 30 Market St CB 032 F003001

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

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and written permission procured before this building or part thereof is lath or other work is put-in. 24 HOUR NOTICE IS REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

PERMIT ISSUED

OTHER REQUIRED APPROVALS

Fire Dept. CAPT. R. F. [Signature]

Health Dept. _____

Appeal Board _____

Other _____

CITY OF PORTLAND

Department Name

[Signature] 2/12/10

Director - Building & Inspection Services

PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

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

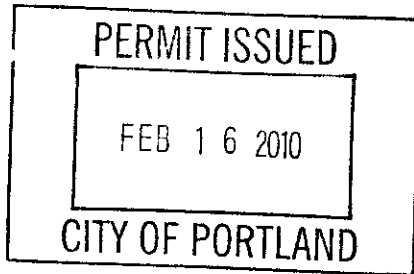
Permit No: 10-0098	Issue Date:	CBL: 032 F003001
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Location of Construction: 30 Market St	Owner Name: E L C Inc	Owner Address: 42 Market St	Phone:
Business Name:	Contractor Name: Eastern Fire Protection Co., Inc.	Contractor Address: 170 Kittyhawk Ave., PO Box 0139 Au	Phone 2077841507
Lessee/Buyer's Name	Phone:	Permit Type: Fire Suppression System / <i>sprinkler</i>	Zone: B-3
Past Use: Commercial - Restaurant - "Pat's Pizza - Old Port" (tenant fit up permit #10-0102)	Proposed Use: Commercial / Restaurant - Fire Suppression System <i>NFPA 13 Sprinkler</i>	Permit Fee: \$120.00	Cost of Work: \$10,000.00
		FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied <i>* See Conditions</i>	INSPECTION: Use Group: <i>A-2</i> Type: <i>3B</i> <i>Sprinkler system</i> <i>IBL-20031</i>
Proposed Project Description: Fire Suppression System		Signature: <i>KG</i>	Signature: <i>JMB 2/12/10</i>
PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)			
Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied			
Signature: _____ Date: _____			

Permit Taken By: <i>gg</i>	Date Applied For: 02/04/2010
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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 information may invalidate a building permit and stop all work..</p>	<p>Special Zone or Reviews</p> <p><input type="checkbox"/> Shoreland</p> <p><input type="checkbox"/> Wetland</p> <p><input type="checkbox"/> Flood Zone</p> <p><input type="checkbox"/> Subdivision</p> <p><input type="checkbox"/> Site Plan</p> <p>Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/></p> <p><i>OK w/ conditions</i> Date: <i>2/10/10 JMB</i></p>	<p>Zoning Appeal</p> <p><input type="checkbox"/> Variance</p> <p><input type="checkbox"/> Miscellaneous</p> <p><input type="checkbox"/> Conditional Use</p> <p><input type="checkbox"/> Interpretation</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Denied</p> <p>Date: _____</p>	<p>Historic Preservation <i>Y6</i></p> <p><input type="checkbox"/> Not in District or Landmark</p> <p><input type="checkbox"/> Does Not Require Review</p> <p><input checked="" type="checkbox"/> Requires Review</p> <p><input type="checkbox"/> Approved</p> <p><input checked="" type="checkbox"/> Approved w/Conditions</p> <p><input type="checkbox"/> Denied</p> <p>Date: <i>2/10/2010</i></p> <p><i>J. Andrews</i></p>
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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
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE

City of Portland, Maine - Building or Use Permit

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

Permit No: 10-0098	Date Applied For: 02/04/2010	CBL: 032 F003001
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Location of Construction: 30 Market St	Owner Name: E L C Inc	Owner Address: 42 Market St	Phone:
Business Name:	Contractor Name: Eastern Fire Protection Co., Inc.	Contractor Address: 170 Kittyhawk Ave., PO Box0139 Au	Phone (207) 784-1507
Lessee/Buyer's Name	Phone:	Permit Type: Fire Suppression System	

Proposed Use: Commercial / Restaurant - Fire Suppression System	Proposed Project Description: Fire Suppression System
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Dept: Historic **Status:** Approved with Conditions **Reviewer:** Deborah Andrews **Approval Date:** 02/10/2010

Note: **Ok to Issue:**

- 1) * Only the fire department hose connection may be installed on the front facade. All other exterior components associated with fire sprinkler system, including sprinkler gong and main drain, to be located on rear elevation, outside of public view.

Dept: Zoning **Status:** Approved with Conditions **Reviewer:** Ann Machado **Approval Date:** 02/05/2010

Note: **Ok to Issue:**

- 1) ANY exterior work requires a separate review and approval thru Historic Preservation. This property is located within an Historic District.
- 2) This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.

Dept: Building **Status:** Approved with Conditions **Reviewer:** Jeanine Bourke **Approval Date:** 02/12/2010

Note: **Ok to Issue:**

- 1) Sprinkler systems to be designed and installed per IBC 2003 standards Sec. 903.3.1

Dept: Fire **Status:** Approved with Conditions **Reviewer:** Capt Keith Gautreau **Approval Date:** 02/11/2010

Note: **Ok to Issue:**

- 1) Fire Department connection shall be 5" storz.
- 2) The Fire alarm and Sprinkler systems shall be reviewed by a licensed contractor[s] for code compliance. Compliance letters are required.
- 3) The sprinkler system shall be installed in accordance with NFPA 13.
- 4) Application requires State Fire Marshal approval.
- 5) Fire department connection type and location shall be approved in writing by fire prevention bureau.
- 6) The Fire Department will require knox locking caps on all Fire Department Connections on the exterior of the building.
- 7) System acceptance and commissioning must be co-ordinated with alarm and suppression system contractors and the Fire Department. Call 874-8703 to schedule.

Comments:

2/4/2010-amachado: Spoke to Jesse at Eastern Fire Protection. He said that Pat's Pizza is occupying the whole building. He also said that he would send a PDF of the plan. He told me that his contact at ELC Corporation was Chris Tyll (776-3831). I left a voicemail for Chris Tyll. We need tenant fit up permit for Pat's Pizza. Permits

Location of Construction: 30 Market St	Owner Name: E L C Inc	Owner Address: 42 Market St	Phone:
Business Name:	Contractor Name: Eastern Fire Protection Co., Inc.	Contractor Address: 170 Kittyhawk Ave., PO Box0139 Au	Phone (207) 784-1507
Lessee/Buyer's Name	Phone:	Permit Type: Fire Suppression System	

2/10/2010-gg: received from historic as of 02/10/10. /gg

10 0098



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: 30 Market St CBL: _____

Exact location: (within structure) _____

Type of occupancy(s) (NFPA & ICC): Food service

Building owner: EIC Corporation

Managing Supervisor: _____ License No: _____

Supervisor phone: _____ E-mail: _____

Installing contractor: Eastern Fire Protection License No: _____

Contractor phone: 207-784-1507 E-mail: hutchinsonjj@teameastern.com

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 will 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 Inspection Division on-line at www.portlandmaine.gov for every submittal. Attach all design information and complete approved submittals as may be required by the State Fire Marshal's Office on 11X17 copies or 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.

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).

COST OF WORK: \$10,000
PERMIT FEE: \$1,200.00
(\$10 PER \$1,000 + \$30 FOR THE FIRST \$1,000)

Applicant signature: [Signature] Date: 2-2-10

RECEIVED
FEB - 4 2010
Dept. of Building Inspections
City of Portland Maine



EASTERN FIRE PROTECTION

P.O. Box 1390
Kittyhawk Ave.
Auburn, ME 04210

PH # (207) 784-1507
FAX # (207) 782-0566

LETTER OF TRANSMITTAL

DATE	2-1-10	JOB NO.	4507
ATTENTION			
RE:	Pat's Pizza 30 Market St		

TO Portland Building Inspection Dept.
389 Congress St RM 315
Portland, ME 04101

WE ARE SENDING YOU Attached Under separate cover via _____ the following items:
 Shop drawings Descriptive data Hydraulic calculations
 Copy of letter Literature _____

QUANTITY	DRAWING NO.	DATE	DESCRIPTION	STATUS
2	1cF1	1-29-10	Shop Drawings	C
2			2nd Floor Hydraulic Calculations	C
2			Basement Hydraulic Calculations	C
1			Check for permit Fee # 106487	

Status code A. Approved D. Corrected & resubmitted
 B. Approved as noted E. For your files
 C. Submitted for approval F. Refer to remarks

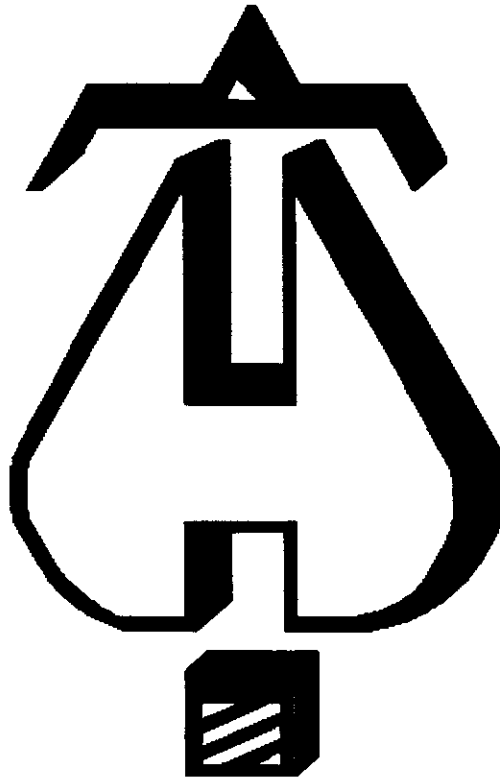
Please return 1 letter ~~copies~~ each indicating your approval and/or comments.

REMARKS _____

COPY TO _____

SIGNED Gene Smith

If enclosures are not as noted, kindly notify us at once



... Fire Protection by Computer Design

EASTERN FIRE PROTECTION.
172 KITTYHAWK AVE.
P.O. BOX 1390
AUBURN, MAINE, 04211
207-784-1507

Job Name : Pat's Pizza 2nd Flr.
Building : 1 OF 1
Location : 30 MARKET ST
System : 1
Contract : 4507
Data File : PAT'S PIZZA 2ND FLR 2.WXF

HYDRAULIC CALCULATIONS
for

Project name: PAT'S PIZZA
Location: 30 MARKET ST
Drawing no: 1 OF 1
Date: 1/27/10

Design

Remote area number: 1
Remote area location: 2ND FLR
Occupancy classification: LIGHT HAZARD
Density: .1 - Gpm/SqFt
Area of application: 977 - SqFt
Coverage per sprinkler: 164 - SqFt
Type of sprinklers calculated: TY-FRB
No. of sprinklers calculated: 11
In-rack demand: - GPM
Hose streams: 100 - GPM
Total water required (including hose streams): 307.46 - GPM@ 70.135 - Psi
Type of system:
Volume of dry or preaction system: - Gal

Water supply information

Date: 6/24/08
Location: TEST HYDRANT #00162 - FLOW HYDRANT #00172
Source: PORTLAND WATER

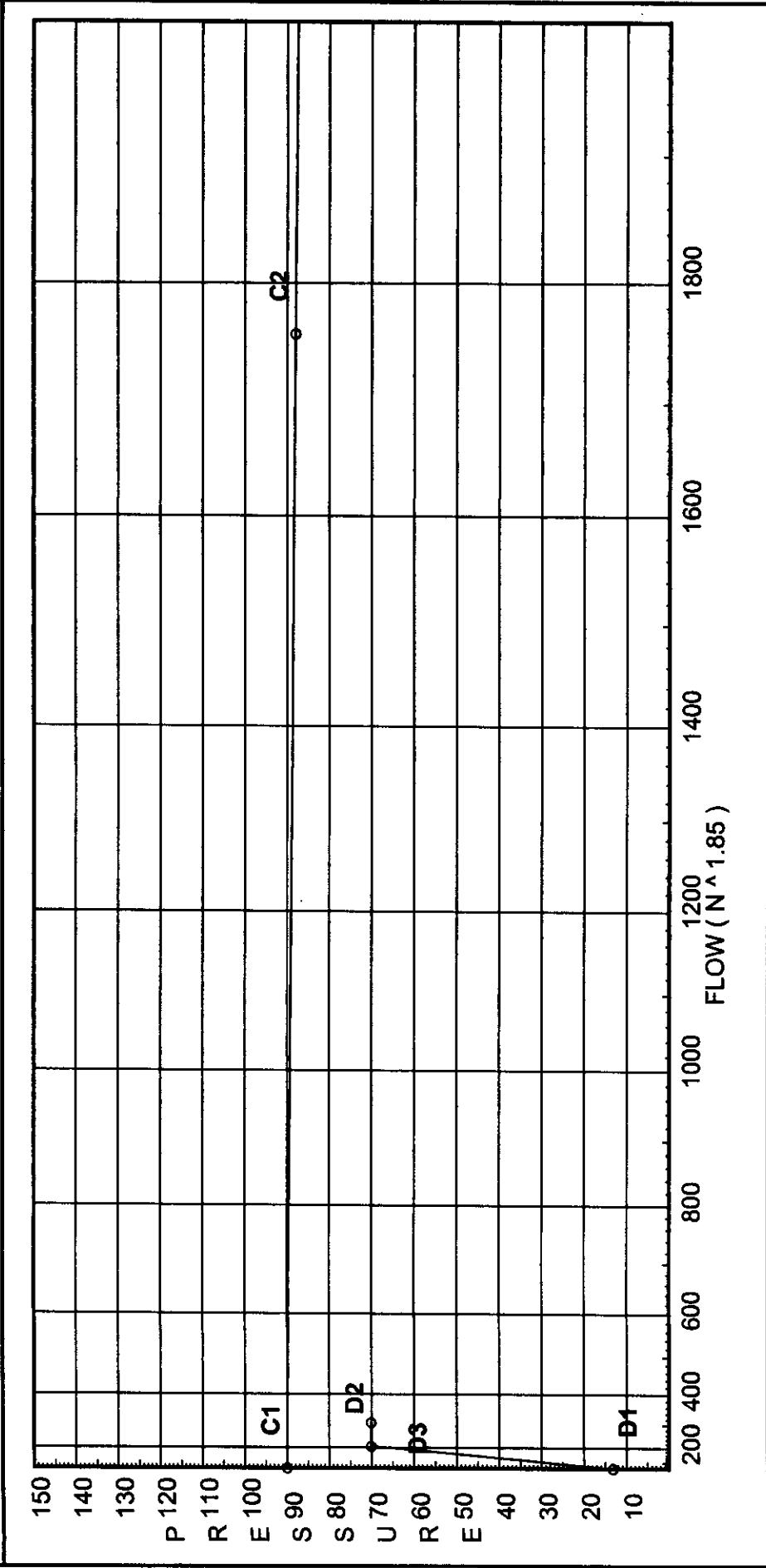
Name of contractor: EASTERN FIRE PROTECTION
Address: 170 KITTYHAWK AVE
Phone number: 784-1507
Name of designer: JJH
Authority having jurisdiction:
Notes: (Include peaking information or gridded systems here.)
REMOTE AREA REDUCED PER NFPA #13 SECTION 11.2.3.2.3.1

Water Supply Curve (C)

EASTERN FIRE PROTECTION.
Pat's Pizza 2nd Flr.

City Water Supply:
 C1 - Static Pressure : 90
 C2 - Residual Pressure: 88
 C2 - Residual Flow : 1758

Demand:
 D1 - Elevation : 13.210
 D2 - System Flow : 207.466
 D2 - System Pressure : 70.135
 Hose (Adj City) : 100
 Hose (Demand) : 307.466
 D3 - System Demand : 19.785
 Safety Margin



Fittings Used Summary

EASTERN FIRE PROTECTION.
Pat's Pizza 2nd Flr.

Fitting Legend Abbrev. Name	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	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
G Generic Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
I 90' Grvd-Vic Elbow #10	0	0	2	3	4	3.5	6	5	8	7	8.5	10	13	17	20	23	25	33	36	40
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
Zca Colt C200 Horz Butt	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

SUPPLY ANALYSIS

<i>Node at Source Pressure</i>	<i>Static Pressure</i>	<i>Residual Pressure</i>	<i>Flow</i>	<i>Available Pressure</i>	<i>Total Demand</i>	<i>Required</i>
MAIN	90.0	88	1758.0	89.921	307.47	70.135

NODE ANALYSIS

<i>Node Tag</i>	<i>Elevation</i>	<i>Node Type</i>	<i>Pressure at Node</i>	<i>Discharge at Node</i>	<i>Notes</i>
SP1	0.0	5.6	7.0	14.82	
300	130.5	5.6	8.58	16.4	
301	130.5	5.32	9.19	16.14	K=K @ LN1
302	130.5	5.32	12.02	18.45	K=K @ LN1
303	130.5	5.6	13.77	20.78	
304	130.5	5.6	8.82	16.63	
305	130.5	5.6	10.08	17.78	
306	130.5	5.6	14.99	21.68	
307	130.5	5.32	14.95	20.58	K=K @ LN1
308	130.5	5.6	9.78	17.51	
309	130.5	5.6	11.17	18.72	
310	130.5	5.6	16.57	22.8	
A	130.5		16.2		
B	130.5		16.53		
C	130.5		16.78		
D	130.5		18.27		
E	130.5		24.43		
E1	130.5		26.0		
E2	130.5		29.44		
E3	107.92		49.3		
J	107.92		52.77		
J1	104.75		55.41		
TOR	104.75		57.09		
BFP	100.0		66.41		
BASE	100.0		69.63		
MAIN	100.0		70.14	100.0	

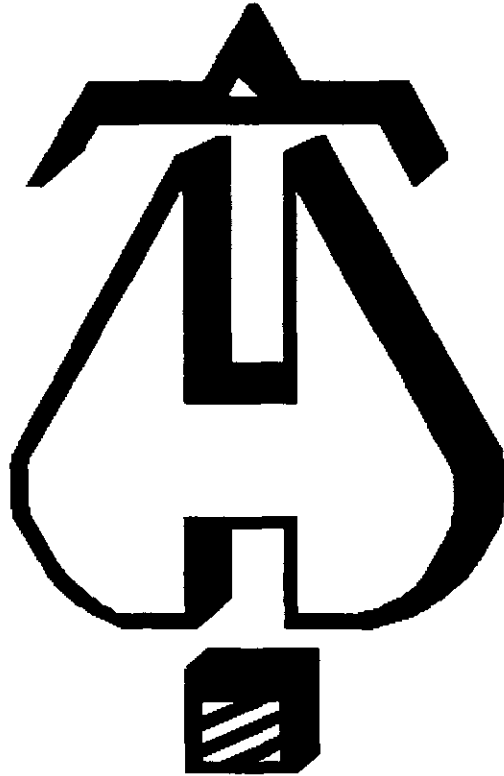
Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqv.	Ln.	Pipe Ftng's Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
SP1 to LN1	0 0	5.60	14.82 14.82	1 1.049	1E 1T	2.0 5.0 0.0	3.000 7.000 10.000	120 0.0747	7.000 0.0 0.747			Vel = 5.50
LN1			0.0 14.82						7.747		K Factor = 5.32	
300 to 301	130.5 130.5	5.60	16.40 16.4	1 1.049		0.0 0.0 0.0	6.790 0.0 6.790	120 0.0901	8.577 0.0 0.612			Vel = 6.09
301 to 302	130.5 130.5	5.32	16.14 32.54	1 1.049		0.0 0.0 0.0	8.830 0.0 8.830	120 0.3202	9.189 0.0 2.827		K = K @ LN1	Vel = 12.08
302 to 303	130.5 130.5	5.32	18.45 50.99	1.25 1.38		0.0 0.0 0.0	9.080 0.0 9.080	120 0.1933	12.016 0.0 1.755		K = K @ LN1	Vel = 10.94
303 to A	130.5 130.5	5.60	20.78 71.77	1.25 1.38	1T	6.0 0.0 0.0	0.670 6.000 6.670	120 0.3639	13.771 0.0 2.427			Vel = 15.39
A			0.0 71.77						16.198		K Factor = 17.83	
304 to 305	130.500 130.5	5.60	16.63 16.63	1 1.049		0.0 0.0 0.0	13.670 0.0 13.670	120 0.0925	8.816 0.0 1.264			Vel = 6.17
305 to 306	130.5 130.5	5.60	17.78 34.41	1 1.049		0.0 0.0 0.0	13.830 0.0 13.830	120 0.3550	10.080 0.0 4.910			Vel = 12.77
306 to B	130.5 130.5	5.60	21.68 56.09	1.25 1.38	1T	6.0 0.0 0.0	0.670 6.000 6.670	120 0.2306	14.990 0.0 1.538			Vel = 12.03
B			0.0 56.09						16.528		K Factor = 13.80	
307 to B	130.5 130.5	5.32	20.58 20.58	1 1.049	1T 1E	5.0 2.0 0.0	4.540 7.000 11.540	120 0.1372	14.945 0.0 1.583		K = K @ LN1	Vel = 7.64
B			0.0 20.58						16.528		K Factor = 5.06	
308 to 309	130.5 130.5	5.60	17.51 17.51	1 1.049		0.0 0.0 0.0	13.670 0.0 13.670	120 0.1018	9.780 0.0 1.392			Vel = 6.50
309 to 310	130.5 130.500	5.60	18.72 36.23	1 1.049		0.0 0.0 0.0	13.830 0.0 13.830	120 0.3906	11.172 0.0 5.402			Vel = 13.45

EASTERN FIRE PROTECTION.
Pat's Pizza 2nd Flr.

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqv.	Ln.	Pipe Ftng's Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
310 to D	130.500 130.5	5.60	22.80 59.03	1.25	1T	6.0 0.0 0.0	0.670 6.000 6.670	120 0.2535	16.574 0.0 1.691		Vel = 12.66	
D			0.0 59.03						18.265		K Factor = 13.81	
A to B	130.5 130.5		71.77 71.77	2		0.0 0.0	8.000 0.0	120 0.0412	16.198 0.0 0.330		Vel = 6.30	
B to C	130.5 130.5		76.67 148.44	2		0.0 0.0	1.580 0.0	120 0.1589	16.528 0.0 0.251		Vel = 13.03	
C to D	130.5 130.5		0.0 148.44	2		0.0 0.0	9.375 0.0	120 0.1585	16.779 0.0 1.486		Vel = 13.03	
D to E	130.5 130.500		59.03 207.47	2	2I	8.615 0.0	12.330 8.615 20.945	120 0.2945	18.265 0.0 6.169		Vel = 18.22	
E to E1	130.500 130.500		0.0 207.47	2	1I	4.307 0.0	1.000 4.307 5.307	120 0.2947	24.434 0.0 1.564		Vel = 18.22	
E1 to E2	130.500 130.500		0.0 207.47	2	2I	8.615 0.0	3.080 8.615 11.695	120 0.2945	25.998 0.0 3.444		Vel = 18.22	
E2 to E3	130.500 107.920		0.0 207.47	2	1T	12.307 0.0	21.920 12.307 34.227	120 0.2946	29.442 9.779 10.082		Vel = 18.22	
E3 to J	107.920 107.920		0.0 207.47	2.5	1I	8.237 0.0	23.000 8.237 31.237	120 0.1111	49.303 0.0 3.471		Vel = 12.21	
J to J1	107.920 104.750		0.0 207.47	2.5	1I	8.237 0.0	3.170 8.237 11.407	120 0.1112	52.774 1.373 1.268		Vel = 12.21	
J1 to TOR	104.750 104.750		0.0 207.47	2.5	1I	8.237 0.0	6.830 8.237 15.067	120 0.1111	55.415 0.0 1.674		Vel = 12.21	
TOR to BFP	104.750 100		0.0 207.47	2.5	2I 1Zca	16.474 0.0	1.000 16.474 17.474	120 0.1111	57.089 7.380 1.942		* Fixed loss = 5.323 Vel = 12.21	
BFP to BASE	100 100		0.0 207.47	2.5	2I	16.474 0.0	12.500 16.474 28.974	120 0.1111	66.411 0.0 3.220		Vel = 12.21	
BASE to MAIN	100 100		0.0 207.47	4	1G 1T	2.907 29.067	20.000 31.974 51.974	140 0.0097	69.631 0.0 0.504		Vel = 5.04	

EASTERN FIRE PROTECTION.
 Pat's Pizza 2nd Flr.

Node1	Elev1	K	Qa	Nom	Fitting or	Pipe Fng's	CFact	Pt Pe	*****	Notes	*****
Node2	Elev2	Fact	Qt	Act	Eqv.	Ln.	Total	Pf/Ft	Pf		
MAIN			100.00							Qa = 100.00	
			307.47					70.135		K Factor = 36.71	



... Fire Protection by Computer Design

EASTERN FIRE PROTECTION.
172 KITTYHAWK AVE.
P.O. BOX 1390
AUBURN, MAINE, 04211
207-784-1507

Job Name : Pat's Pizza Basement
Building : 1 OF 1
Location :
System : 1
Contract : 4507
Data File : PAT'S PIZZA BASMENT 2.WXF

HYDRAULIC CALCULATIONS
for

Project name: PAT'S PIZZA 30 MARKET ST
Location:
Drawing no: 1 OF 1
Date: 1/27/10

Design

Remote area number: 1
Remote area location: BASEMENT
Occupancy classification: ORDINARY HAZARD GROUP II
Density: .15 - Gpm/SqFt
Area of application: 929 - SqFt
Coverage per sprinkler: 120 - SqFt
Type of sprinklers calculated: TY-FRB
No. of sprinklers calculated: 12
In-rack demand: - GPM
Hose streams: 100 - GPM
Total water required (including hose streams): 422.722 - GPM @ 77.711 - Psi
Type of system: WET
Volume of dry or preaction system: - Gal

Water supply information

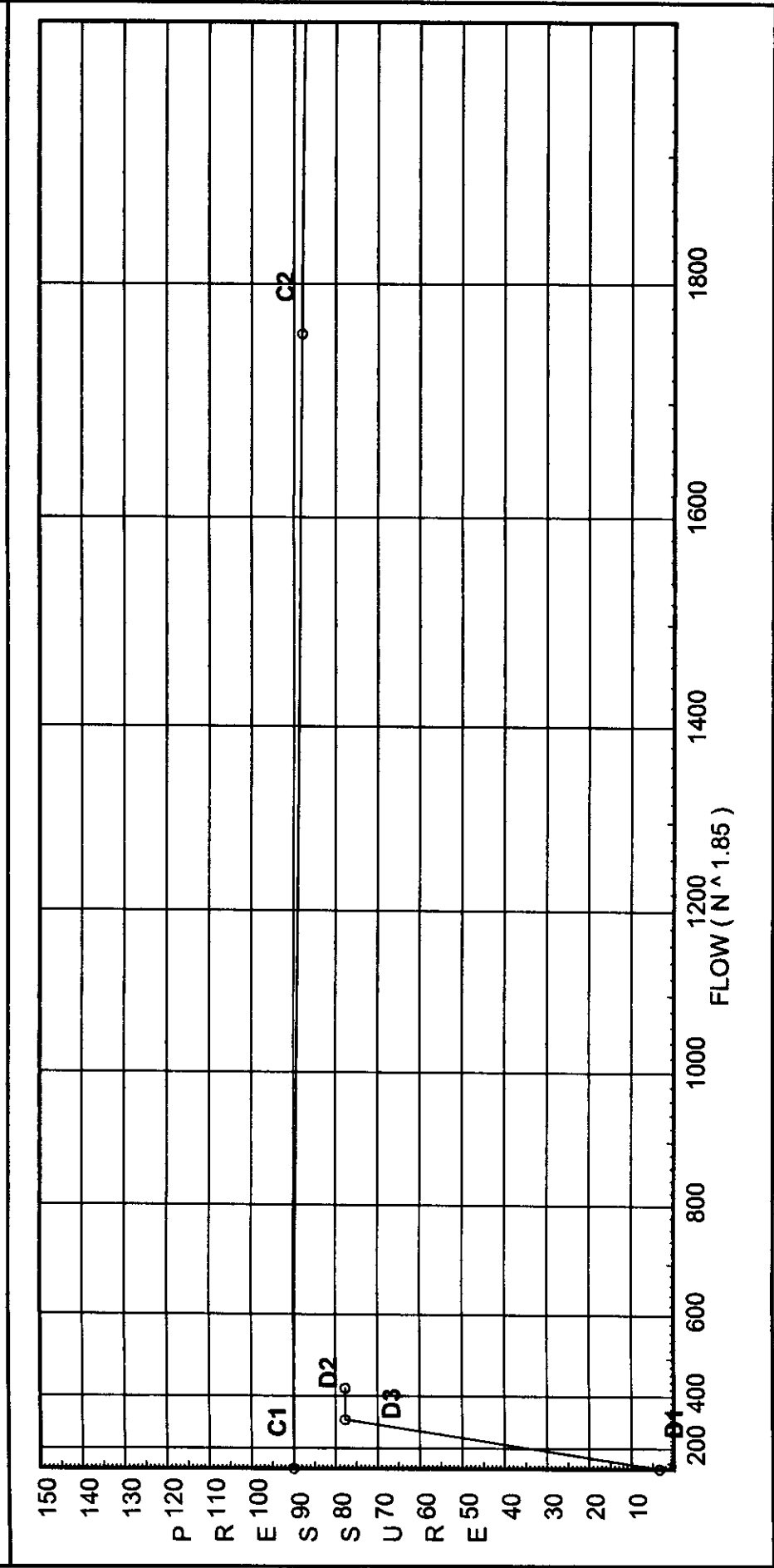
Date: 6/24/08
Location: TEST HYDRANT #00162 - FLOW HYDRANT #00172
Source: PORTLAND WATER

Name of contractor: EASTERN FIRE PROTECTION
Address: 170 KITTYHAWK AVE
Phone number: 784-1507
Name of designer: JJH
Authority having jurisdiction: MAINE STATE FIRE MARSHAL
Notes: (Include peaking information or gridded systems here.)
REMOTE AREA REDUCED PER NFPA #13 SECTION 11.2.3.2.1

Water Supply Curve (C)

EASTERN FIRE PROTECTION.
Pat's Pizza Basement

City Water Supply:		Demand:	
C1 - Static Pressure	: 90	D1 - Elevation	: 3.430
C2 - Residual Pressure	: 88	D2 - System Flow	: 322.722
C2 - Residual Flow	: 1758	D2 - System Pressure	: 77.711
		Hose (Adj City)	: 100
		Hose (Demand)	: 422.722
		D3 - System Demand	: 12.146
		Safety Margin	



Fittings Used Summary

EASTERN FIRE PROTECTION.

Pat's Pizza Basement

Fitting Legend Abbrev. Name	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	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
G Generic Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
I 90' Grvd-Vic Elbow #10	0	0	2	3	4	3.5	6	5	8	7	8.5	10	13	17	20	23	25	33	36	40
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
Zca Colt C200 Horz Butt	Fitting generates a Fixed Loss Based on Flow																			

Units Summary

Diameter Units
Length Units
Flow Units
Pressure Units

Inches
Feet
US Gallons per Minute
Pounds per Square Inch

SUPPLY ANALYSIS

<i>Node at Source Pressure</i>	<i>Static Pressure</i>	<i>Residual Pressure</i>	<i>Flow</i>	<i>Available Pressure</i>	<i>Total Demand</i>	<i>Required</i>
MAIN	90.0	88	1758.0	89.857	422.72	77.711

NODE ANALYSIS

<i>Node Tag</i>	<i>Elevation</i>	<i>Node Type</i>	<i>Pressure at Node</i>	<i>Discharge at Node</i>	<i>Notes</i>
SP1	0.0	5.6	18.37	24.0	
12	107.92	5.6	32.04	31.7	
1	107.92	5.6	16.31	22.62	
2	107.92	5.6	17.48	23.42	
3	107.92	5.6	25.04	28.02	
4	107.92	5.6	23.72	27.27	
3A	107.92		26.61		
5	107.92	5.6	16.97	23.07	
6	107.92	5.39	19.83	24.0	K=K @ LN1
7	107.92	5.6	23.32	27.04	
7A	107.92		25.14		
8	107.92	5.6	24.76	27.86	
8A	107.92		26.31		
9	107.92	5.6	23.28	27.02	
10	107.92	5.6	24.95	27.97	
11	107.92	5.6	34.16	32.73	
A1	107.92		34.71		
B1	107.92		34.73		
C1	107.92		36.29		
D1	107.92		43.35		
J	107.92		46.68		
J1	104.75		50.92		
TOR	104.75		54.72		
BFP	100.0		69.28		
BASE	100.0		76.57		
MAIN	100.0		77.71	100.0	

EASTERN FIRE PROTECTION.
Pat's Pizza Basement

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqv.	Ln.	Pipe Ftng's Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
SP1 to LN1	0 0	5.60	24.00 24.0	1	1T	5.0 0.0	3.000 5.000	120	18.367 0.0			
						0.0	8.000	0.1824	1.459	Vel =	8.91	
LN1			0.0 24.00						19.826	K Factor =	5.39	
12 to A1	107.920 107.920	5.60	31.70 31.7	1	1T	5.0 0.0	3.750 5.000	120	32.038 0.0			
						0.0	8.750	0.3050	2.669	Vel =	11.77	
A1			0.0 31.70						34.707	K Factor =	5.38	
1 to 2	107.920 107.920	5.60	22.62 22.62	1	1E	2.0 0.0	5.170 2.000	120	16.311 0.0			
						0.0	7.170	0.1635	1.172	Vel =	8.40	
2 to 3A	107.920 107.920	5.60	23.41 46.03	1	1T	5.0 0.0	10.000 5.000	120	17.483 0.0			
						0.0	15.000	0.6083	9.125	Vel =	17.09	
3A			0.0 46.03						26.608	K Factor =	8.92	
3 to 3A	107.920 107.920	5.60	28.02 28.02	1	1T	5.0 0.0	1.460 5.000	120	25.039 0.0			
						0.0	6.460	0.2429	1.569	Vel =	10.40	
3A			0.0 28.02						26.608	K Factor =	5.43	
4 to 3A	107.920 107.920	5.60	27.27 27.27	1	1T	5.0 0.0	7.500 5.000	120	23.720 0.0			
						0.0	12.500	0.2310	2.888	Vel =	10.12	
3A to B1	107.920 107.920		74.06 101.33	1.25	1T	6.0 0.0	5.790 6.000	120	26.608 0.0			
				1.38		0.0	11.790	0.6887	8.120	Vel =	21.74	
B1			0.0 101.33						34.728	K Factor =	17.19	
5 to 6	107.920 107.920	5.60	23.07 23.07	1	3E	6.0 0.0	10.830 6.000	120	16.973 0.0			
						0.0	16.830	0.1695	2.853	Vel =	8.56	
6 to 7A	107.920 107.920	5.39	24.00 47.07	1	1T	5.0 0.0	3.375 5.000	120	19.826 0.0	K = K @ LN1		
						0.0	8.375	0.6340	5.310	Vel =	17.47	
7A			0.0 47.07						25.136	K Factor =	9.39	
7 to 7A	107.920 107.920	5.60	27.04 27.04	1	1T	5.0 0.0	3.000 5.000	120	23.317 0.0			
						0.0	8.000	0.2274	1.819	Vel =	10.04	

EASTERN FIRE PROTECTION.
Pat's Pizza Basement

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqv.	Ln.	Pipe Ftng's Total	CFact Pf/Ft	Pt Pe Pf	***** Notes *****
7A to 8A	107.920 107.920		47.07 74.11	1.25 1.38		0.0 0.0 0.0	3.040 0.0 3.040	120 0.3859	25.136 0.0 1.173	Vel = 15.90
8A			0.0 74.11						26.309	K Factor = 14.45
8 to 8A	107.920 107.920	5.60	27.86 27.86	1 1.049	1T	5.0 0.0 0.0	1.460 5.000 6.460	120 0.2402	24.757 0.0 1.552	Vel = 10.34
8A to B1	107.920 107.920		74.12 101.98	1.25 1.38	1T	6.0 0.0 0.0	6.080 6.000 12.080	120 0.6969	26.309 0.0 8.419	Vel = 21.87
B1			0.0 101.98						34.728	K Factor = 17.31
9 to 10	107.920 107.920	5.60	27.02 27.02	1 1.049		0.0 0.0 0.0	7.330 0.0 7.330	120 0.2271	23.282 0.0 1.665	Vel = 10.03
10 to C1	107.920 107.920	5.60	27.97 54.99	1 1.049	1T	5.0 0.0 0.0	8.420 5.000 13.420	120 0.8453	24.947 0.0 11.344	Vel = 20.41
C1			0.0 54.99						36.291	K Factor = 9.13
11 to C1	107.920 107.920	5.60	32.73 32.73	1 1.049	1T	5.0 0.0 0.0	1.580 5.000 6.580	120 0.3237	34.161 0.0 2.130	Vel = 12.15
C1			0.0 32.73						36.291	K Factor = 5.43
A1 to B1	107.920 107.920		31.70 31.7	2.5 2.635		0.0 0.0 0.0	6.170 0.0 6.170	120 0.0034	34.707 0.0 0.021	Vel = 1.87
B1 to C1	107.920 107.920		203.30 235.0	2.5 2.635		0.0 0.0 0.0	11.170 0.0 11.170	120 0.1399	34.728 0.0 1.563	Vel = 13.83
C1 to D1	107.920 107.920		87.72 322.72	2.5 2.635	1T	16.474 0.0 0.0	11.580 16.474 28.054	120 0.2516	36.291 0.0 7.059	Vel = 18.99
D1 to J	107.920 107.920		0.0 322.72	2.5 2.635	1I	8.237 0.0 0.0	5.000 8.237 13.237	120 0.2517	43.350 0.0 3.332	Vel = 18.99
J to J1	107.920 104.750		0.0 322.72	2.5 2.635	1I	8.237 0.0 0.0	3.170 8.237 11.407	120 0.2516	46.682 1.373 2.870	Vel = 18.99

EASTERN FIRE PROTECTION.
Pat's Pizza Basement

Node1	Elev1	K	Qa	Nom	Fitting or	Pipe	CFact	Pt	*****	Notes	*****
to	Node2	Elev2	Fact	Qt	Act	Eqv.	Ln.	Pipe Ftng's Total	Pf/Ft	Pf	
J1	104.750		0.0	2.5	1I	8.237	6.830	120	50.925		
to						0.0	8.237		0.0		
TOR	104.750		322.72	2.635		0.0	15.067	0.2516	3.791	Vel = 18.99	
TOR	104.750		0.0	2.5	2I	16.474	1.000	120	54.716		
to					1Zca	0.0	16.474		10.164	* Fixed loss = 8.107	
BFP	100		322.72	2.635		0.0	17.474	0.2517	4.398	Vel = 18.99	
BFP	100		0.0	2.5	2I	16.474	12.500	120	69.278		
to						0.0	16.474		0.0		
BASE	100		322.72	2.635		0.0	28.974	0.2516	7.291	Vel = 18.99	
BASE	100		0.0	4	1G	2.907	20.000	140	76.569		
to					1T	29.067	31.974		0.0		
MAIN	100		322.72	4.1		0.0	51.974	0.0220	1.142	Vel = 7.84	
			100.00							Qa = 100.00	
MAIN			422.72						77.711	K Factor = 47.95	