

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK
CITY OF PORTLAND

BU ILDING DIVISION

PERMIT

Permit Number: 090668

Please Read
Application And
Notes, If Any,
Attached

This is to certify that SEYMOUR WENDY E /Dean Allyn In
has permission to Install Sprinkler System
AT 64 DEERING ST CE 047 C006001

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 altered or otherwise occupied-in. 24 HOURS NOTICE IS REQUIRED.

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

OTHER REQUIRED APPROVALS

Fire Dept. CAPT. R. Johnson
Health Dept. _____
Appeal Board _____
Other _____
Department Name _____

CITY OF PORTLAND
Cheryl H 7/19/09
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: 09-0668	Issue Date: 7/14/09	CBL: 047 C006001
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Location of Construction: 64 DEERING ST	Owner Name: SEYMOUR WENDY E	Owner Address: 536 SHOREBIRD CIR # 5202	Phone: 650-569-5467
Business Name:	Contractor Name: Dean & Allyn Inc.	Contractor Address: P.O. Box 709 Gray	Phone: 2076575646
Lessee/Buyer's Name	Phone:	Permit Type: Sprinkler Systems	Zone: R-6

Past Use: Residential - Lodging house - connected to permit #07-1437 to legalize three dwelling units.	Proposed Use: Residential - Install Sprinkler System as part of process to legalize three illegal dwelling units	Permit Fee: \$190.00	Cost of Work: \$17,000.00	CEO District: 2
Proposed Project Description: Install Sprinkler System		FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied * See Conditions	INSPECTION: Use Group: R-2 Type: SB IBC 2003	
		Signature: <i>(Signature)</i>	Signature: <i>(Signature)</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: lmd	Date Applied For: 06/24/2009	Zoning Approval		
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<ol style="list-style-type: none"> This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules. Building permits do not include plumbing, septic or electrical work. 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.. 	Special Zone or Reviews <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/> <i>Oral conditions</i> Date: 6/30/09 <i>ASR</i>	Zoning Appeal <input 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 type="checkbox"/> Not in District 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 <i>Any extra work requires a separate approval</i> 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 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

BUILDING PERMIT INSPECTION PROCEDURES

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

to schedule your inspections as agreed upon

Permits expire in 6 months, if the project is not started or ceases for 6 months.

The Owner or their designee is required to notify the inspections office for the following inspections and provide adequate notice. Notice must be called in 48-72 hours in advance in order to schedule an inspection:

By initializing at each inspection time, you are agreeing that you understand the inspection procedure and additional fees from a "Stop Work Order" and "Stop Work Order Release" will be incurred if the procedure is not followed as stated below.

A Pre-construction Meeting will take place upon receipt of your building permit.

 X **Final inspection required at completion of work.**

Certificate of Occupancy is not required for certain projects. Your inspector can advise you if your project requires a Certificate of Occupancy. All projects DO require a final inspection.

If any of the inspections do not occur, the project cannot go on to the next phase, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.

CERIFICATE OF OCCUPANICES MUST BE ISSUED AND PAID FOR, BEFORE THE SPACE MAY BE OCCUPIED.

Signature of Applicant/Designee

Date

Signature of Inspections Official

Date

CBL: 047 C006001

Building Permit #: 09-0668

City of Portland, Maine - Building or Use Permit

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

Permit No: 09-0668	Date Applied For: 06/24/2009	CBL: 047 C006001
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Location of Construction: 64 DEERING ST	Owner Name: SEYMOUR WENDY E	Owner Address: 536 SHOREBIRD CIR # 5202	Phone: 650-569-5467
Business Name:	Contractor Name: Dean & Allyn Inc.	Contractor Address: P.O. Box 709 Gray	Phone (207) 657-5646
Lessee/Buyer's Name	Phone:	Permit Type: Sprinkler Systems	

Proposed Use: Residential - Install Sprinkler System as part of process to legalize three illegal dwelling units	Proposed Project Description: Install Sprinkler System
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Dept: Zoning Status: Approved with Conditions Reviewer: Ann Machado Approval Date: 06/30/2009

Note: Ok to Issue:

- 1) The current legal use of this property is a lodging house. Permit #07-1437 is pending to legalize three illegal dwelling units for a total of three dwelling units.
- 2) ANY exterior work requires a separate review and approval thru Historic Preservation. This property is located within an Historic District.
- 3) 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: Chris Hanson Approval Date:

Note: Ok to Issue:

- 1) Installation must meet section 903 of the IBC 2003 and NFPA 13R
- 2) All penetrations between dwelling units and dwelling units and common areas shall be protected with approved firestop materials, and recessed lighting/vent fixtures shall not reduce the (1 hour) required rating per Sec. 712 of IBC
- 3) Separate permits are required for any electrical, plumbing, sprinkler, fire alarm or HVAC or exhaust systems. Separate plans may need to be submitted for approval as a part of this process.
- 4) ANY exterior work requires separate review and approval thru Historic Preservation

Dept: Fire Status: Approved with Conditions Reviewer: Capt Keith Gautreau Approval Date: 07/01/2009

Note: Ok to Issue:

- 1) 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.
- 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 13R.

Comments:

6/25/2009-lmd: I called Henry King requesting the plans in a PDF format. He will email them to me.

7/2/2009-lmd: Please contact Joe Bube (electrician) as soon as the permit is issued. 749-4200



PORTLAND FIRE DEPARTMENT
Sprinkler Plan Review Request Form

DEF: _____
CUB#: _____
JUN 24 2009
VIA POSTAL MAIL
EIVED

PROJECT NAME: Wendy Seymour Apartments

Fire Marshal's Permit No: 8580

Physical Address: 64 Deering St.
Portland Maine

Property Owner
Mailing Address:

Wendy Seymour
146 Cervantes Rd.
Redwood City CA 94062

Phone No.
Fax No.
Email:

650 269 5467

Contractor Name:
Address:

Dean and Allyn Inc
32 Lewiston Rd
GRAY ME 04039

Phone
Fax No.
Email

657 5646
657 5647
hking@maine.rr.com *cell 2339105*

Type of System: 1B 13D 13R Life Safety

System Design: Wet Dry Pre-Action Deluge

Number and Location of Zones: one - Basement

System Monitoring:

Water Flow Tamper Low Air

All sprinkler plans must be reviewed and approved by the State Fire Marshal prior to submission to the Portland Fire Department

All sprinkler systems must meet or exceed the requirements of NFPA and the Portland Fire Department Sprinkler Ordinance Chapter 10.

Sprinkler plans, including all applicable hydraulic calculations, must be submitted.

Fire Department Use Only	
Applicant: _____	Date: _____
Fire Chief: _____	Date: _____
FD JETT: # _____	



State of Maine
Department of Public Safety
Fire Sprinkler System Permit



8580

WENDY SEYMOUR APARTMENTS

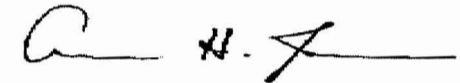
Located at: 64 DEERING STREET
 In the Town of: Portland
 Occupancy/Use: APARTMENT BUILDING
 Type of System: NFPA 13R

Permission is hereby given to:

Dean & Allyn, Inc.
 PO Box 709
 Gray, ME 04039
 Contractor License # 262

according to plans submittal filed with the Licensing and Inspections Unit and are now approved. This application form/plans are filed under log # **2091131**, and no departure from application form/plans 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 for failure to comply with local ordinances, zoning laws, or other pertinent legal restrictions. Each permit issued shall be displayed/available at the site of construction.

This permit was issued on **4/17/2009** for a fee paid of **\$100.00**
 This permit will expire at midnight on *Wednesday, October 14, 2009*



Anne H. Jordan
 Commissioner

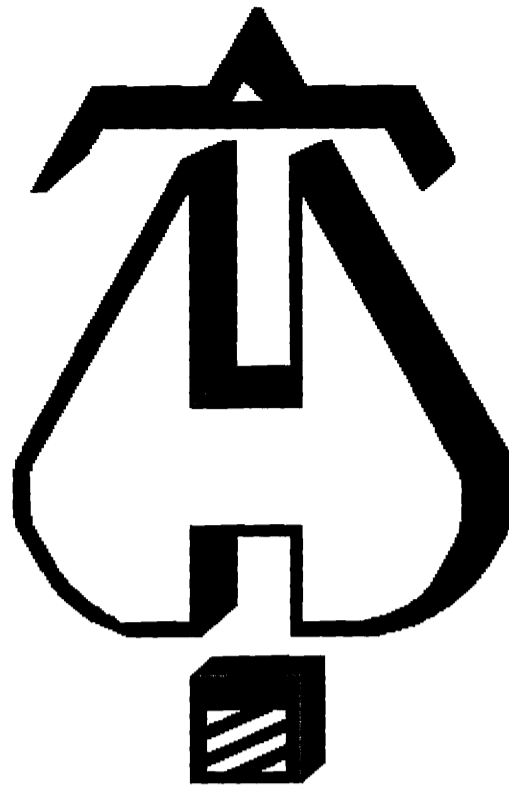
Fire Department Connection Location/Type per Local Fire Department

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 Licensing and Inspections Unit 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 sprinkler licenses expire June 30th every year.

Job completed, tested and verified on date of _____

RMS for this job: Stewart Dana A.

RMS Signature: _____



... Fire Protection by Computer Design

DEAN & ALLYN, INC.
PO BOX 709
32 LEWISTON ROAD
GRAY, MAINE 04039
207-657-5646

Job Name : 64 DEERING ST BASEMENT
Building :
Location : 64 DEERING STREET PORTLAND MAINE
System : ONE
Contract : C09861
Data File : 64DEERINGBASEMENT1.WXF

Hydraulic Design Information Sheet

Name - WENDY SEYMOUR APARTMENTS Date - 4-14-09
 Location - 64 DEERING STREET PORTLAND MAINE
 Building - Contractor - DEAN AND ALLYN, INC. System No. - ONE
 Calculated By - H. KING Contract No. - C09861
 Construction: (X) Combustible () Non-Combustible Drawing No. - 1 OF 1
 Occupancy - APARTMENT BUILDING BASEMENT Ceiling Height - 8'

S () NFPA 13 () Lt. Haz. Ord.Haz.Gp. () 1 () 2 () 3 () Ex.Haz.
 Y () NFPA 231 () NFPA 231C () Figure Curve
 S Other NFPA #13R
 T Specific Ruling Made By Date

E
 M Area of Sprinkler Operation - 4 HEADS System Type Sprinkler/Nozzle
 Density - .15 (X) Wet Make VIKING
 D Area Per Sprinkler - 56 () Dry Model MICROFAST
 E Elevation at Highest Outlet - 8' () Deluge Size 3/8"
 S Hose Allowance - Inside () Preaction K-Factor 2.8
 I Rack Sprinkler Allowance - () Other Temp.Rat.155
 G Hose Allowance - Outside -
 N

Note CUSHION 29.60PSI

Calculation Flow Required - 35.19 Press Required - 22.79 PUMP
 Summary C-Factor Used: 120 Overhead N/A Underground

W Water Flow Test: Pump Data: Tank or Reservoir:
 A Date of Test - Cap. -
 T Time of Test - Rated Cap.- Elev.-
 E Static Press - 55 @ Press -
 R Residual Press - 50 Elev. - Well
 S Flow - 50 Proof Flow
 U Elevation - 0'

P Location -
 P
 L Source of Information - GOULD'S PUMP CURVE
 Y

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

Fittings Used Summary

DEAN & ALLYN, INC.
64 DEERING ST BASEMENT

Page 2
Date 4-14-09

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
S Generic Swing Check Valve	4	5	5	7	9	11	14	16	19	22	27	32	45	55	65	76	87	98	109	130
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

Units Summary

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

Pressure / Flow Summary - STANDARD

DEAN & ALLYN, INC.
64 DEERING ST BASEMENT

Page 3
Date 4-14-09

Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
50	8.0	2.8	9.0	na	8.4	0.15	56	7.0
51	8.0	2.8	9.2	na	8.49	0.15	56	7.0
52	8.0	2.8	9.91	na	8.81	0.15	56	7.0
53	8.0	2.8	11.46	na	9.48	0.15	56	7.0
60	8.0		15.24	na				
TR	8.0		16.99	na				
FF	0.0		21.91	na				
PMP	0.0		22.79	na				

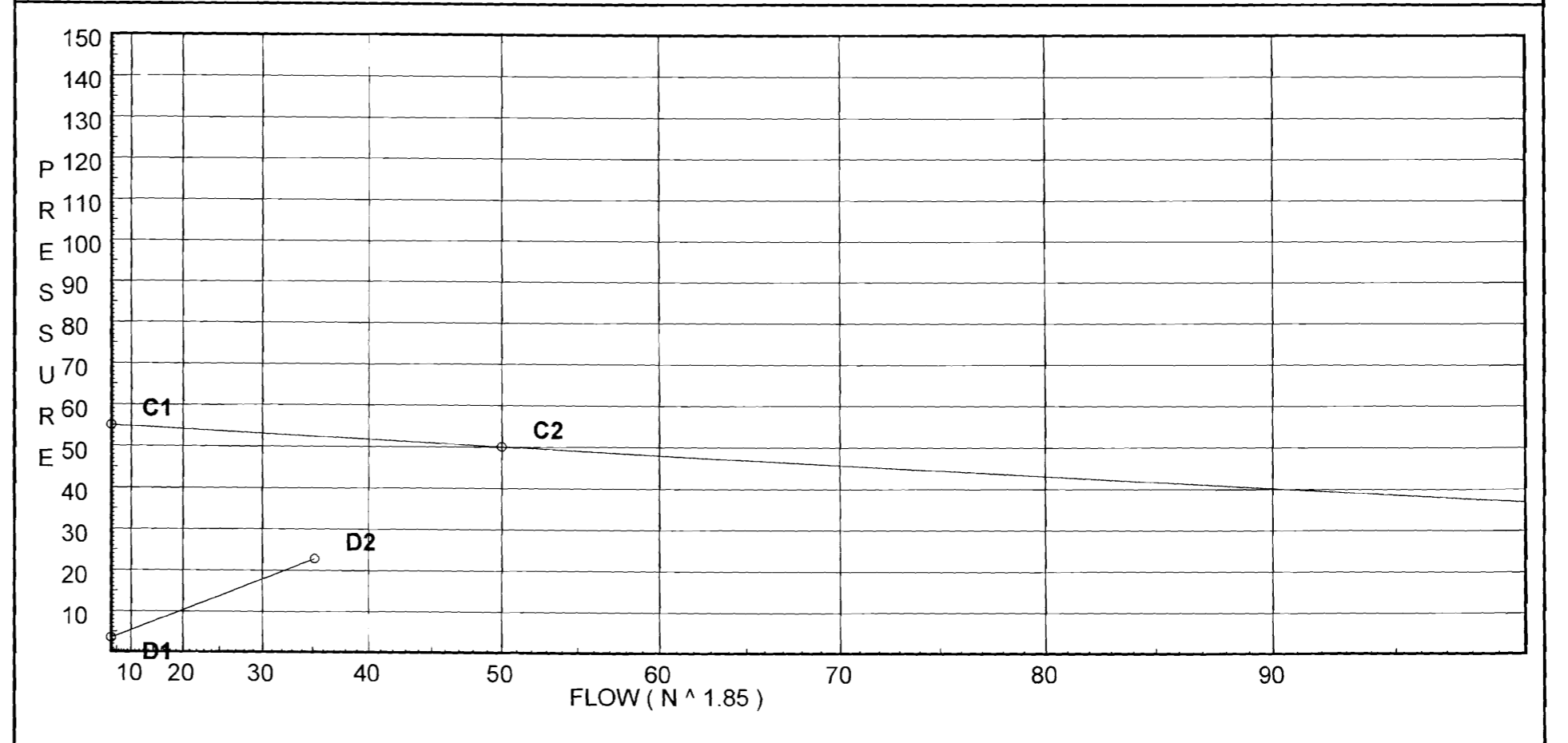
The maximum velocity is 13.06 and it occurs in the pipe between nodes 53 and 60

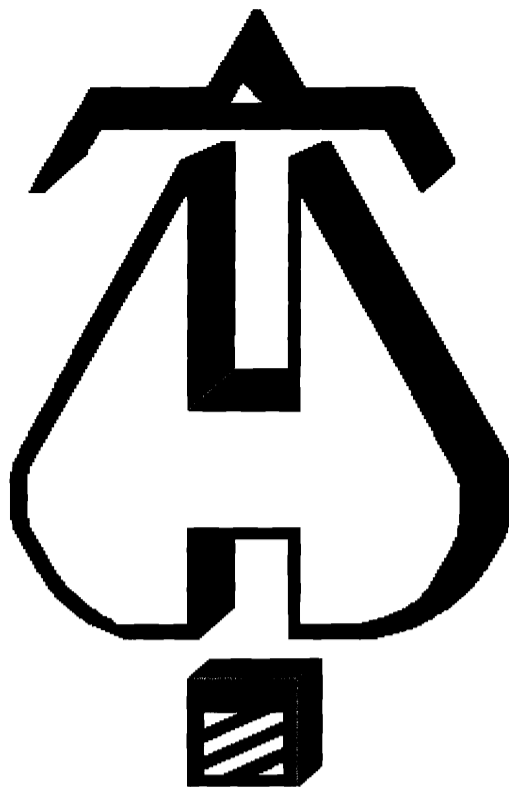
Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv. Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	***** Notes *****
50	8.40	1.049		7.500	9.000		K Factor = 2.80
to		120.0		0.0	0.0		
51	8.4	0.0261		7.500	0.196		Vel = 3.12
51	8.49	1.049		7.500	9.196		K Factor = 2.80
to		120.0		0.0	0.0		
52	16.89	0.0952		7.500	0.714		Vel = 6.27
52	8.82	1.049		7.500	9.910		K Factor = 2.80
to		120.0		0.0	0.0		
53	25.71	0.2071		7.500	1.553		Vel = 9.54
53	9.48	1.049	1T	5.0	5.200	11.463	K Factor = 2.80
to		120.0		0.0	5.000	0.0	
60	35.19	0.3700		0.0	10.200	3.774	Vel = 13.06
60	0.0	1.38	3E	9.0	9.000	15.237	
to		120.0		0.0	9.000	0.0	
TR	35.19	0.0973		0.0	18.000	1.752	Vel = 7.55
TR	0.0	1.38	1S	7.0	8.000	16.989	
to		120.0		0.0	7.000	3.465	
FF	35.19	0.0973		0.0	15.000	1.460	Vel = 7.55
FF	0.0	1.38	2E	6.0	3.000	21.914	
to		120.0		0.0	6.000	0.0	
PMP	35.19	0.0973		0.0	9.000	0.876	Vel = 7.55
	0.0						
	35.19					22.790	K Factor = 7.37

Water Supply Curve (C)

DEAN & ALLYN, INC.
64 DEERING ST BASEMENT

City Water Supply:		Demand:	
C1 - Static Pressure	: 55	D1 - Elevation	: 3.465
C2 - Residual Pressure	: 50	D2 - System Flow	: 35.1854
C2 - Residual Flow	: 50	D2 - System Pressure	: 22.790
		Hose (Adj City)	: _____
		Hose (Demand)	: _____
		D3 - System Demand	: 35.1854
		Safety Margin	: 29.600





... Fire Protection by Computer Design

DEAN & ALLYN, INC.
PO BOX 709
32 LEWISTON ROAD
GRAY, MAINE 04039
207-657-5646

Job Name : 64 DEERING ST SECOND FLOOR
Building :
Location : 64 DEERING STREET PORTLAND MAINE
System : ONE
Contract : CO0XXX
Data File : 64DEERINGSECOND.WXF

HYDRAULIC DESIGN INFORMATION SHEET

Name - WENDY SEYMOUR APARTMENTS Date - 4-14-09
Location - 64 DEERING STREET PORTLAND MAINE
Building - Contractor - DEAN AND ALLYN, INC. System No. - ONE
Contract No. - CO0XXX
Calculated By - H. KING Drawing No. - 1 OF 1
Construction: (X) Combustible () Non-Combustible Ceiling Height 10'
OCCUPANCY - APARTMENT BUILDING

S Type of Calculation: ()NFPA 13 Residential (X)NFPA 13R ()NFPA 13D
Y Number of Sprinklers Flowing: ()1 (X)2 ()4 ()
S ()Other
T ()Specific Ruling Made by Date
E
M Listed Flow at Start Point - 16 Gpm System Type
Listed Pres. at Start Point - 16 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 VIKING Model FREEDOM
I Elevation at Highest Outlet - 31 Feet Size K-Factor 4.0
G Note:CUSHION 8.68 PSI Temperature Rating 155
N

Calculation Gpm Required 32.38 Psi Required 44.07 At Test
Summary C-Factor Used: Overhead 120 Underground 120

W Water Flow Test: Pump Data: Tank or Reservoir:
A Date of Test - Rated Cap. Cap.
T Time of Test - @ Psi Elev.
E Static (Psi) - 55 Elev.
R Residual (Psi) - 50 Other Well
Flow (Gpm) - 50 Proof Flow Gpm
S Elevation - 0
P Location: GOULDS PUMP CURVE
L Source of Information:
Y

Fittings Used Summary

DEAN & ALLYN, INC.
64 DEERING ST SECOND FLOOR

Page 2
Date 4-14-09

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
S Generic Swing Check Valve	4	5	5	7	9	11	14	16	19	22	27	32	45	55	65	76	87	98	109	130
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

Units Summary

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

Pressure / Flow Summary - STANDARD

DEAN & ALLYN, INC.
64 DEERING ST SECOND FLOOR

Page 3
Date 4-14-09

Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
7	31.0	4	16.0	na	16.0	0.06	256	16.0
8	31.0	4	16.78	na	16.38	0.06	256	16.0
9	31.0		22.8	na				
32	31.0		24.56	na				
33	20.0		30.24	na				
34	8.0		36.36	na				
35	8.0		37.13	na				
36	8.0		38.32	na				
TR	7.0		39.13	na				
FF	0.0		43.33	na				
PMP	0.0		44.08	na				

The maximum velocity is 12.02 and it occurs in the pipe between nodes 8 and 9

Final Calculations - Hazen-Williams

LEAN & ALLYN, INC.
64 DEERING ST SECOND FLOOR

Page 4
Date 4-14-09

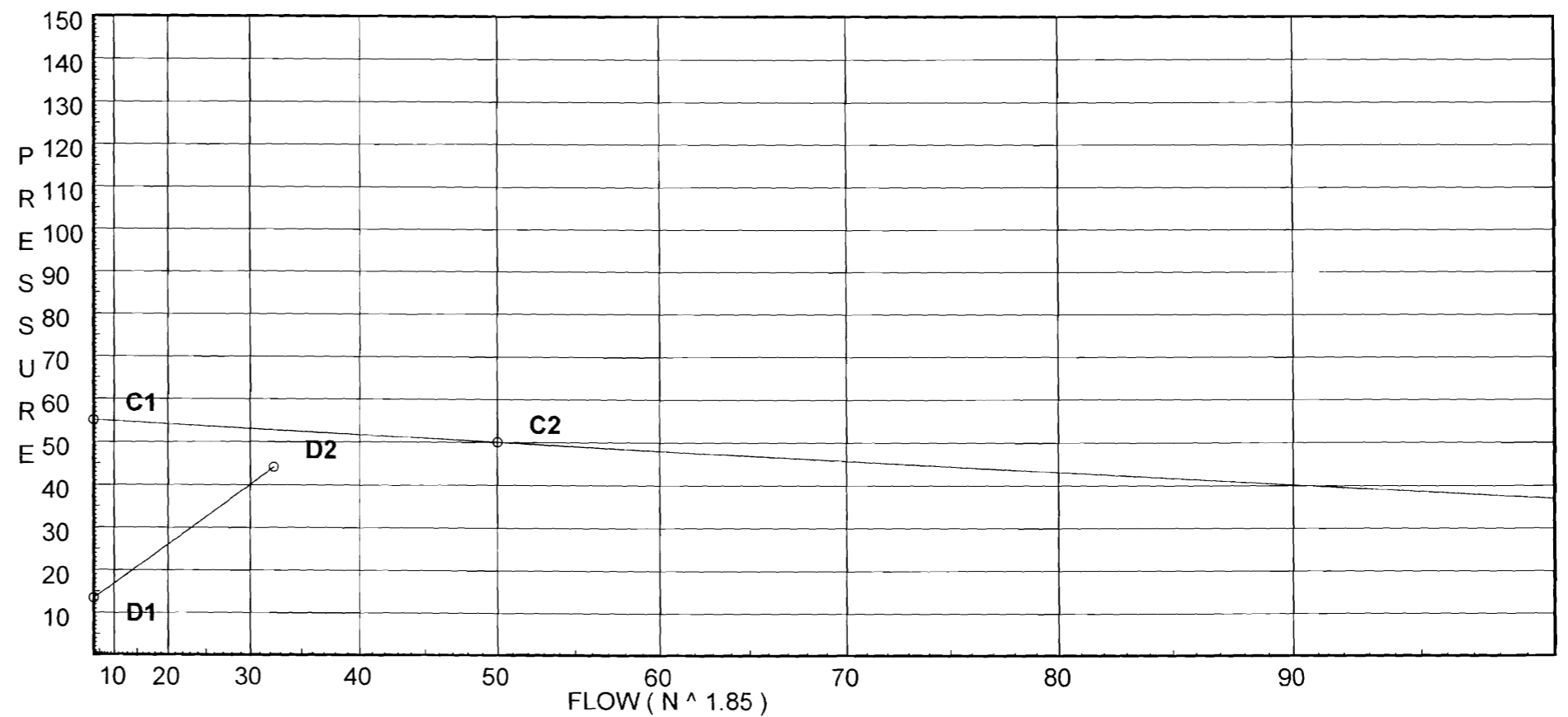
Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv. Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	***** Notes *****
7	16.00	1.049		9.000	16.000		K Factor = 4.00
to		120.0		0.0	0.0		
8	16.0	0.0861		9.000	0.775		Vel = 5.94
8	16.38	1.049	1E 2.0	17.000	16.775		K Factor = 4.00
to		120.0		2.000	0.0		
9	32.38	0.3174		19.000	6.030		Vel = 12.02
9	0.0	1.38	2E 6.0	9.000	22.805		
to		120.0	1T 6.0	12.000	0.0		
32	32.38	0.0835		21.000	1.753		Vel = 6.95
32	0.0	1.38		11.000	24.558		
to		120.0		0.0	4.764		
33	32.38	0.0835		11.000	0.918		Vel = 6.95
33	0.0	1.38		11.000	30.240		
to		120.0		0.0	5.197		
34	32.38	0.0835		11.000	0.919		Vel = 6.95
34	0.0	1.38	1T 6.0	3.300	36.356		
to		120.0		6.000	0.0		
35	32.38	0.0834		9.300	0.776		Vel = 6.95
35	0.0	1.38	2T 12.0	2.200	37.132		
to		120.0		12.000	0.0		
36	32.38	0.0835		14.200	1.185		Vel = 6.95
36	0.0	1.38	1E 3.0	1.500	38.317		
to		120.0		3.000	0.433		
TR	32.38	0.0836		4.500	0.376		Vel = 6.95
TR	0.0	1.38	1S 7.0	7.000	39.126		
to		120.0		7.000	3.032		
FF	32.38	0.0834		14.000	1.168		Vel = 6.95
FF	0.0	1.38	2E 6.0	3.000	43.326		
to		120.0		6.000	0.0		
PMP	32.38	0.0834		9.000	0.751		Vel = 6.95
	0.0						
	32.38				44.077		K Factor = 4.88

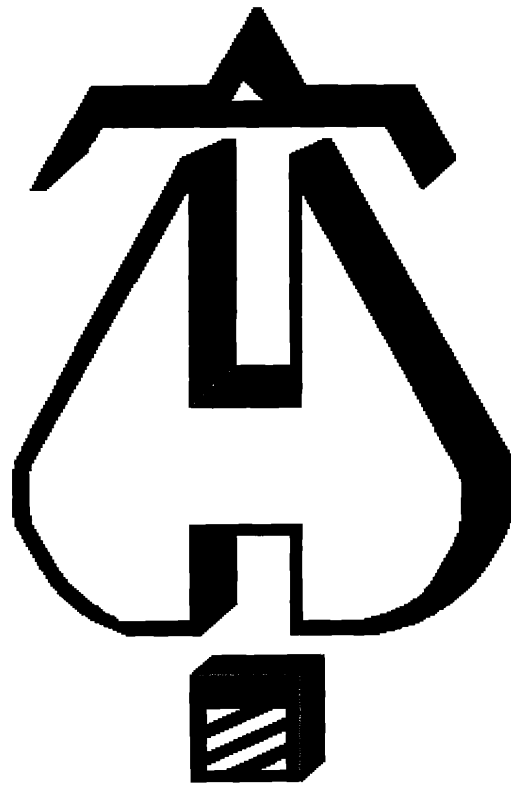
Water Supply Curve (C)

DEAN & ALLYN, INC.
64 DEERING ST SECOND FLOOR

City Water Supply:
C1 - Static Pressure : 55
C2 - Residual Pressure: 50
C2 - Residual Flow : 50

Demand:
D1 - Elevation : 13.426
D2 - System Flow : 32.383
D2 - System Pressure : 44.077
Hose (Adj City) : _____
Hose (Demand) : _____
D3 - System Demand : 32.383
Safety Margin : 8.684





... Fire Protection by Computer Design

DEAN & ALLYN, INC.
PO BOX 709
32 LEWISTON ROAD
GRAY, MAINE 04039
207-657-5646

Job Name : 64 DEERING ST THIRD FLOOR
Building :
Location : 64 DEERING STREET PORTLAND MAINE
System : ONE
Contract : CO0861
Data File : 64DEERINGTHIRD.WXF

HYDRAULIC DESIGN INFORMATION SHEET

Name - WENDY SEYMOUR APARTMENTS Date - 4-14-09
Location - 64 DEERING STREET PORTLAND MAINE
Building - Contractor - DEAN AND ALLYN, INC. System No. - ONE
Calculated By - H. KING Contract No. - C00861
Drawing No. - 1 OF 1
Construction: (X) Combustible () Non-Combustible Ceiling Height 10'
OCCUPANCY - APARTMENT BUILDING

S Type of Calculation: ()NFPA 13 Residential (X)NFPA 13R ()NFPA 13D
Y Number of Sprinklers Flowing: ()1 (X)2 ()4 ()
S ()Other
T ()Specific Ruling Made by Date
E
M Listed Flow at Start Point - 12 Gpm System Type
Listed Pres. at Start Point - 9 Psi (X) Wet () Dry
D MAXIMUM LISTED SPACING 14 x 14 () Deluge () PreAction
E Domestic Flow Added - Gpm Sprinkler or Nozzle
S Additional Flow Added - Gpm Make VIKING Model FREEDOM
I Elevation at Highest Outlet - 40 Feet Size K-Factor 4.0
G Note:CUSHION 14.320 PSI Temperature Rating 155
N

Calculation Gpm Required 24.43 Psi Required 39.35 At Test
Summary C-Factor Used: Overhead 120 Underground 120

W Water Flow Test: Pump Data: Tank or Reservoir:
A Date of Test - Rated Cap. Cap.
T Time of Test - @ Psi Elev.
E Static (Psi) - 55 Elev.
R Residual (Psi) - 50 Other Well
S Flow (Gpm) - 50 Proof Flow Gpm
Elevation - 0

P Location: GOULDS PUMP CURVE

P Source of Information:
L
Y

Fittings Used Summary

DEAN & ALLYN, INC.
64 DEERING ST THIRD FLOOR

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Date 4-14-09

Fitting Legend		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
Abbrev.	Name																				
E	90' Standard Elbow	2	2	2	3	4	5	6	7	8	10	12	14	18	22	27	35	40	45	50	61
S	Generic Swing Check Valve	4	5	5	7	9	11	14	16	19	22	27	32	45	55	65	76	87	98	109	130
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

Units Summary

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

Pressure / Flow Summary - STANDARD

DEAN & ALLYN, INC.
64 DEERING ST THIRD FLOOR

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Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
1	40.0	4	9.0	na	12.0	0.06	196	9.0
2	40.0	4	9.66	na	12.43	0.06	196	9.0
30	40.0		9.72	na				
31	40.0		15.18	na				
32	31.0		20.78	na				
33	20.0		27.62	na				
34	8.0		33.36	na				
35	8.0		33.82	na				
36	8.0		34.52	na				
TR	7.0		35.18	na				
FF	0.0		38.91	na				
PMP	0.0		39.35	na				

The maximum velocity is 9.07 and it occurs in the pipe between nodes 30 and 31

Final Calculations - Hazen-Williams

DEAN & ALLYN, INC.
64 DEERING ST THIRD FLOOR

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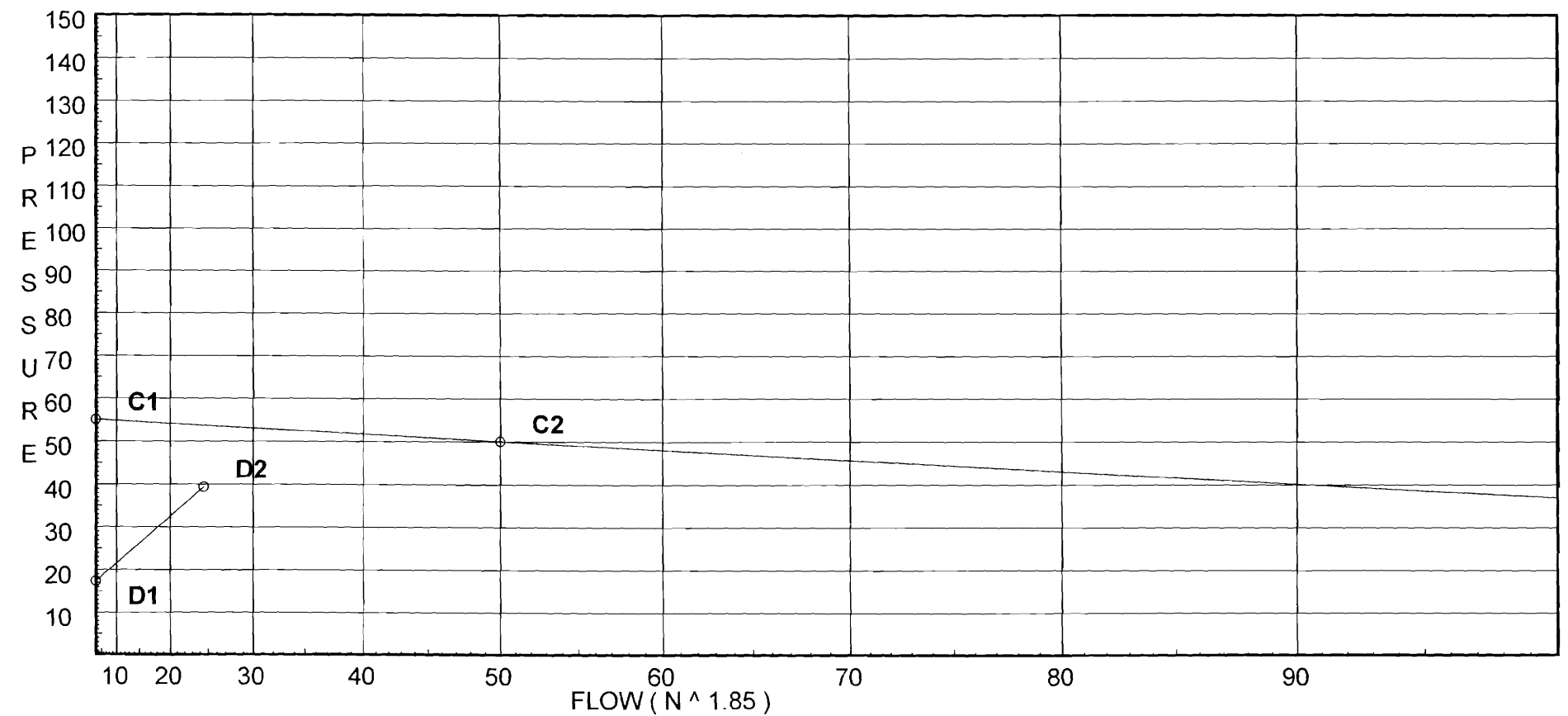
Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv. Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	***** Notes *****
1	12.00	1.049	1E 2.0	12.200	9.000		K Factor = 4.00
to		120.0	0.0	2.000	0.0		
30	12.0	0.0506	0.0	14.200	0.718		Vel = 4.45
	0.0						
	12.00				9.718		K Factor = 3.85
2	12.43	1.049	0.0	1.000	9.664		K Factor = 4.00
to		120.0	0.0	0.0	0.0		
30	12.43	0.0540	0.0	1.000	0.054		Vel = 4.61
30	12.00	1.049	1E 2.0	22.000	9.718		
to		120.0	1T 5.0	7.000	0.0		
31	24.43	0.1885	0.0	29.000	5.466		Vel = 9.07
31	0.0	1.049	0.0	9.000	15.184		
to		120.0	0.0	0.0	3.898		
32	24.43	0.1886	0.0	9.000	1.697		Vel = 9.07
32	0.0	1.049	0.0	11.000	20.779		
to		120.0	0.0	0.0	4.764		
33	24.43	0.1885	0.0	11.000	2.073		Vel = 9.07
33	0.0	1.38	0.0	11.000	27.616		
to		120.0	0.0	0.0	5.197		
34	24.43	0.0496	0.0	11.000	0.546		Vel = 5.24
34	0.0	1.38	1T 6.0	3.300	33.359		
to		120.0	0.0	6.000	0.0		
35	24.43	0.0496	0.0	9.300	0.461		Vel = 5.24
35	0.0	1.38	2T 12.0	2.200	33.820		
to		120.0	0.0	12.000	0.0		
36	24.43	0.0496	0.0	14.200	0.704		Vel = 5.24
36	0.0	1.38	1E 3.0	1.500	34.524		
to		120.0	0.0	3.000	0.433		
TR	24.43	0.0496	0.0	4.500	0.223		Vel = 5.24
TR	0.0	1.38	1S 7.0	7.000	35.180		
to		120.0	0.0	7.000	3.032		
FF	24.43	0.0496	0.0	14.000	0.694		Vel = 5.24
FF	0.0	1.38	2E 6.0	3.000	38.906		
to		120.0	0.0	6.000	0.0		
PMP	24.43	0.0496	0.0	9.000	0.446		Vel = 5.24
	0.0						
	24.43				39.352		K Factor = 3.89

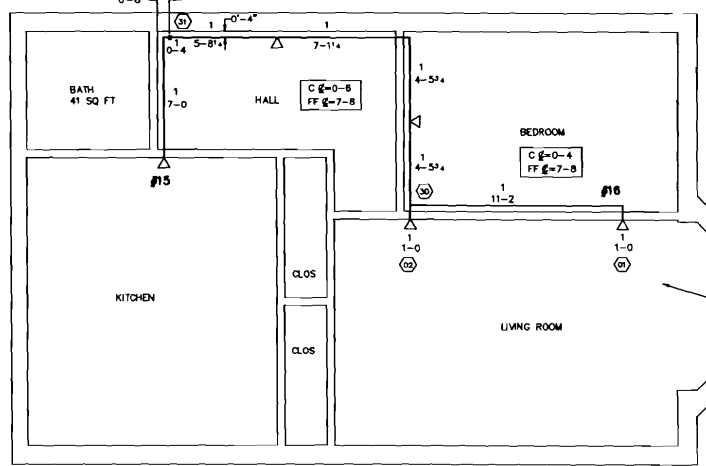
Water Supply Curve (C)

DEAN & ALLYN, INC.
64 DEERING ST THIRD FLOOR

City Water Supply:
C1 - Static Pressure : 55
C2 - Residual Pressure: 50
C2 - Residual Flow : 50

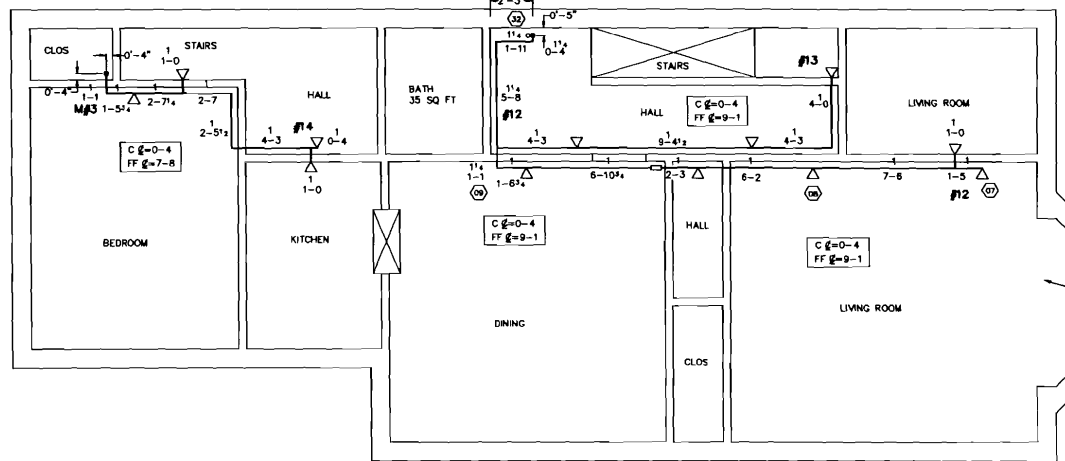
Demand:
D1 - Elevation : 17.324
D2 - System Flow : 24.4349
D2 - System Pressure : 39.352
Hose (Adj City) : _____
Hose (Demand) : _____
D3 - System Demand : 24.4349
Safety Margin : 14.318





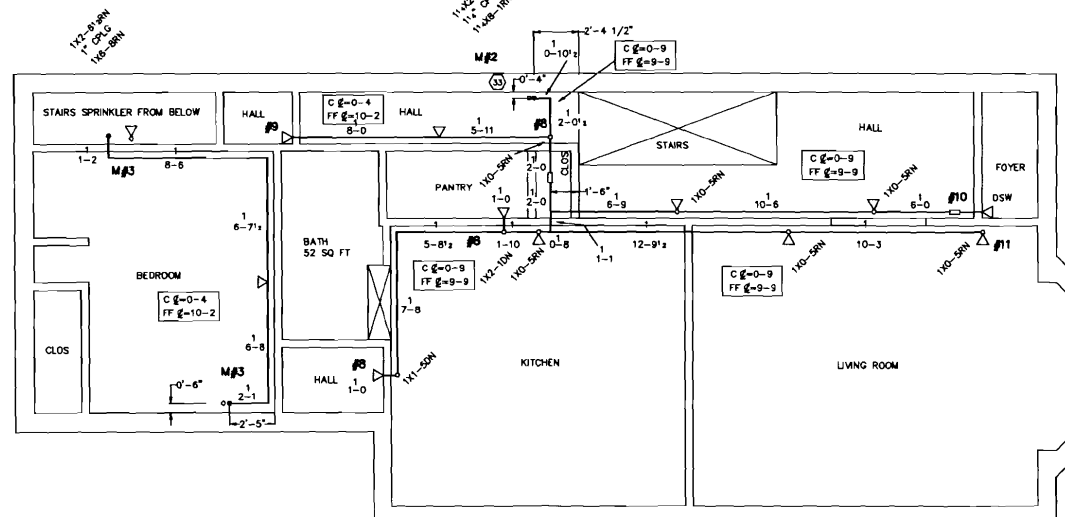
CALC FILE: 64DEERINGTHIRD.WXF
 HYDRAULIC DATA:
 BASIS OF DESIGN:
 DENSITY .08
 AREA OF COVERAGE TWO SPRINKLERS
 TOTAL ORIFICE TEMP
 SPRINKLERS 2 1/2" 155"
 SYSTEM DEMAND AT PUMP:
 PRESSURE 39.35
 FLOW 24.43
 HOSE 0
 SAFETY MARGIN 14.32 PSI
 OCCUPANCY: RESIDENCE

THIRD FLOOR

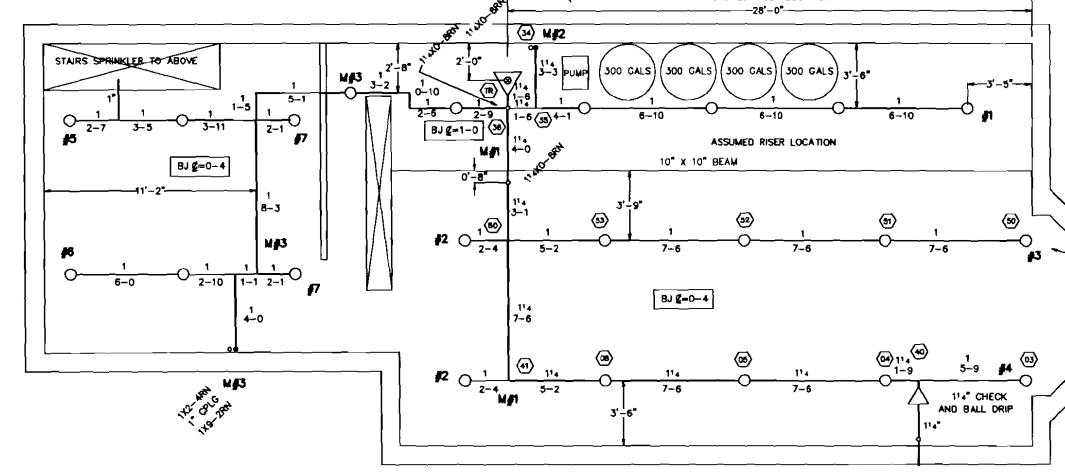


CALC FILE: 64DEERINGSECOND.WXF
 HYDRAULIC DATA:
 BASIS OF DESIGN:
 DENSITY .08
 AREA OF COVERAGE TWO SPRINKLERS
 TOTAL ORIFICE TEMP
 SPRINKLERS 2 1/2" 155"
 SYSTEM DEMAND AT PUMP:
 PRESSURE 44.07
 FLOW 32.39
 HOSE 0
 SAFETY MARGIN 8.66 PSI
 OCCUPANCY: RESIDENCE

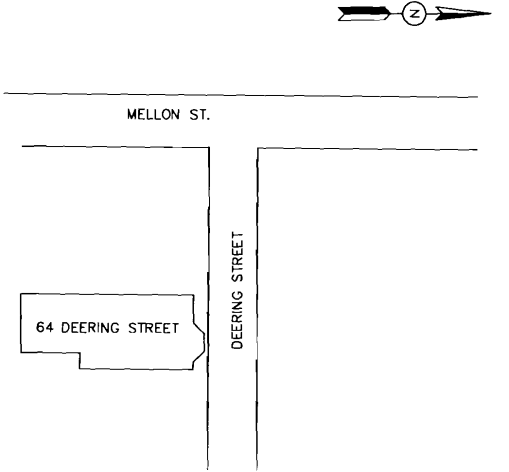
SECOND FLOOR



FIRST FLOOR



CALC FILE: 64DEERINGBASEMENT.WXF
 HYDRAULIC DATA:
 BASIS OF DESIGN:
 DENSITY .15
 AREA OF COVERAGE FOUR SPRINKLERS
 TOTAL ORIFICE TEMP
 SPRINKLERS 4 3/8" 155"
 SYSTEM DEMAND AT PUMP:
 PRESSURE 22.79
 FLOW 35.19
 HOSE 0
 SAFETY MARGIN 29.6PSI
 OCCUPANCY: APARTMENT BLDG. BSMT



LOCATION PLAN
NOT TO SCALE

SYSTEM CLASSIFICATION

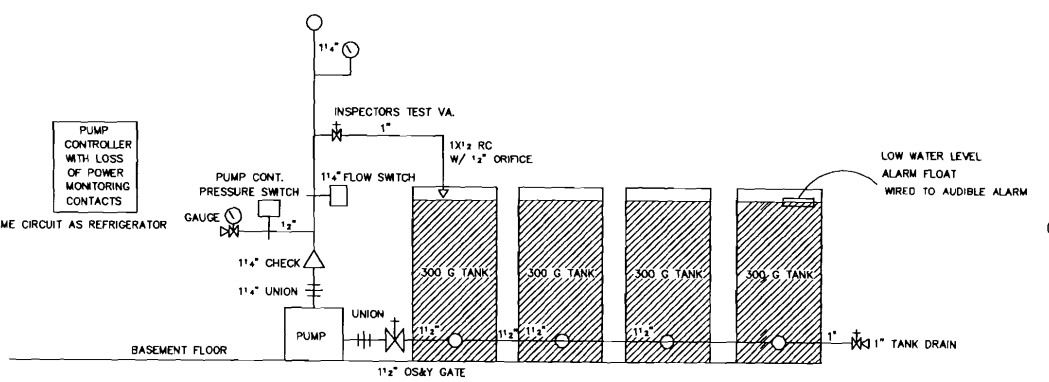
A WET PIPE NFPA #13R SPRINKLER
 SYSTEM OF AUTOMATIC SPRINKLERS TO BE
 INSTALLED IN ALL REQUIRED AREAS OF THE BUILDING
 HYDRAULICALLY DESIGNED FOR 4 OPERATING SPRINKLERS
 OR THE MOST DEMANDING COMPARTMENT.

GENERAL NOTES

- ALL DIMENSIONS ARE CENTER TO CENTER U/N
- ALL 2" AND SMALLER PIPE TO SCH 40 BLACK
- ALL SCREWED FITTINGS TO BE STD. WT. C.I. BLACK U/N
- ALL SCREWED FITTINGS TO BE STD. WT. C.I. BLACK U/N
- ALL PIPING IS 4" FROM WALLS U/N
- ALL HANGERS ARE SAMMY SCREWS SPACED PER NFPA #13

LEGEND

- BRASS Q R UPRIGHT HEAD
- ▷ WHITE RES. HOR. SIDEWALL HEAD
- RISE OR DROP
- RISER BETWEEN FLOOR
- SCREWED COUPLING
- ⊗ HYDRAULIC REFERENCE POINT
- FF=XX FINISH FLOOR TO CENTERLINE OF PIPE
- C=XX CEILING TO CENTERLINE OF PIPE
- BJ=XX BOTTOM OF JOIST TO CENTERLINE OF PIPE
- TJ=XX TOP OF JOIST TO CENTERLINE OF PIPE



RISER SECTION
NO SCALE

- 22 VIKING MICROFAST Q R BRASS UPRIGHTS 155" 3/8"X1/2" K=2.8
- ▷ 28 VIKING FREEDOM RESIDENTIAL WHITE SIDEWALL 155" VK453 1/2"X1/2" K=4.0
- 1 VIKING HORIZONTAL Q R 155" DRY WHITE SIDEWALL 1/2"X1/2" K=5.6

DEAN & ALLYN, INC.
 FIRE PROTECTION - SPECIAL HAZARD
 PO BOX 789, GRAY, MAINE 04039
 (207)657-5646 FAX:(207)657-5647

DANA A. STEWART NICET IV - #064544	
APPROVED BY	DATE
SURVEYED BY HAK	4-11-09
DRAWN BY HAK	4-14-09
CHECKED BY DAS	
AT DEAN & ALLYN, INC.	

WENDY SEYMOUR APARTMENTS
 64 DEERING STREET
 PORTLAND MAINE

REV.	DATE
51	
51	