

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK
CITY OF PORTLAND

Please Read
 Application And
 Notes, If Any,
 Attached

BU **PERMIT** ICTION

This is to certify that YOUNG WOMEN'S CHRISTIAN ASSOCIATION PORTLAND/EAST

has permission to Install Fire Sprinkler System

AT 22 PARK AVE

CB 035 D009001

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 lathed or otherwise red-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. Santora

Health Dept. _____

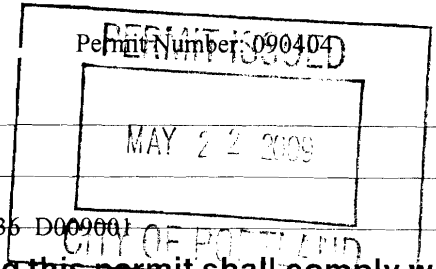
Appeal Board _____

Other _____

Department Name

Director - Building & Inspection Services

PENALTY FOR REMOVING THIS CARD



Clayton M. [Signature]
 5/22/09

City of Portland, Maine - Building or Use Permit Application

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

Permit No: 09-0404	Issue Date: 5/22/09	CBL: 036 D009001
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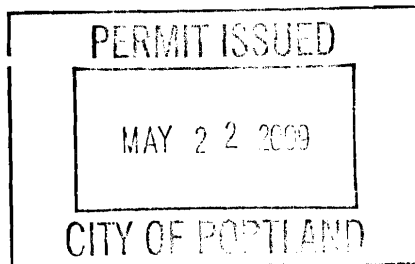
Location of Construction: 22 PARK AVE	Owner Name: YOUNG WOMEN'S CHRISTIAN	Owner Address: 87 SPRING ST	Phone: 207-784-1507
Business Name:	Contractor Name: Eastern Fire Protection Co., Inc.	Contractor Address: 170 Kittyhawk Ave., PO Box Auburn	Phone: 2077841507
Lessee/Buyer's Name	Phone:	Permit Type: Fire Suppression System	Zone: C-5

Past Use: Six Unit Residential	Proposed Use: Six Unit Residential - Install Fire Sprinkler System	Permit Fee: \$240.00	Cost of Work: \$22,000.00	CEO District: 2	B-2-b
Proposed Project Description: Install Fire Sprinkler System		FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied *See Conditions	INSPECTION: Use Group: R-2 Type OSB IBC-2003		
		Signature: <i>KG</i>	Signature: <i>CGH 5/22/09</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: 05/04/2009	Zoning Approval			
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- 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"/> Date: <i>5/22/09</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 checked="" 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 Date: _____
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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: 09-0404	Date Applied For: 05/04/2009	CBL: 036 D009001
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Business Name:	Contractor Name: Eastern Fire Protection Co., Inc.	Contractor Address: 170 Kittyhawk Ave., PO Box Auburn	Phone: (207) 784-1507
Lessee/Buyer's Name	Phone:	Permit Type: Fire Suppression System	

Proposed Use: Six Unit Residential - Install Fire Sprinkler System	Proposed Project Description: Install Fire Sprinkler System
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Dept: Zoning **Status:** Approved with Conditions **Reviewer:** Marge Schmuckal **Approval Date:** 05/08/2009

Note: **Ok to Issue:**

- 1) This property shall remain as six (6) dwelling units on the second through fourth floors and the first floor is occupied by Youth Alternatives Ingraham which runs a transitional young parent housing program. The six apartments are part of this program. Any change of use shall require a separate permit application for review and approval.
- 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:** Chris Hanson **Approval Date:** 05/22/2009

Note: **Ok to Issue:**

- 1) Sprinkler system must meet Section 903 Of the IBC 2003.
- 2) All penetrations through rated assemblies must be protected by an approved firestop system installed in accordance with ASTM 814 or UL 1479, per IBC 2003 Section 712.

Dept: Fire **Status:** Approved with Conditions **Reviewer:** Capt Keith Gautreau **Approval Date:** 05/08/2009

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.



PORTLAND FIRE DEPARTMENT Sprinkler Plan Review Request Form

CBL#: 036-D-009 Date: _____

Fire Marshal's Permit No: _____

Address of Property where
Alarm System will be Installed:

22 Park Avenue
Property Owner: Theater Contractors } *Contractor*
Owner's Address: Steve Keltonic }
Phone No: 878 5553
Fax No: _____
Email: _____

Contractor Name: Eastern Fire Protection } *Contractor*
Address: 170 Kittyhawk Ave }
Auburn, Maine } *Subcontractor*
Phone: 207-784-1507
Fax No: 207-782-0566
Email: dstpierre@teameastern.com

Type of System: 13 13D 13R Life Safety
System Design: Wet Dry Pre-Action Deluge

Number and Location of Zones: One - Pump & Tank

System Monitoring: Water Flow ~~Tamper~~ ^{Pump Loss of Power} Low ~~Air~~ Water

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 305.

Sprinkler plans, including all applicable hydraulic calculations, must be submitted 10 days prior to scheduled meeting.

Fire Department Use Only

Applicant: _____ Date: _____

Fire Chief: _____ Date: _____

FD HTE #: _____

**EASTERN FIRE PROTECTION**

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

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

LETTER OF TRANSMITTAL

DATE	4-28-09	JOB NO.	AU4388
ATTENTION	Building Inspection		
RE:	22 Park Avenue		

TO Portland City Hall - Bldg Insp.
389 Congress Street
Portland, Maine 04101

WE ARE SENDING YOU Attached Under separate cover via _____ the following items:

- Shop drawings Descriptive data Hydraulic calculations
 Copy of letter Literature Check & App.

QUANTITY	DRAWING NO.	DATE	DESCRIPTION	STATUS
1	1 of 2	4-28-09	Shop Drawing	C/E
1	2 of 2	4-28-09	Shop Drawing	C/E
1			Hydraulic Calculations (3)	C/E
1			Permit Application	E
1			Permit Check \$240.00	E

Status code

- A. Approved
 B. Approved as noted
 C. Submitted for approval

- D. Corrected & resubmitted
 E. For your files
 F. Refer to remarks

Please return written notification ~~copies each~~ indicating your approval and/or comments.

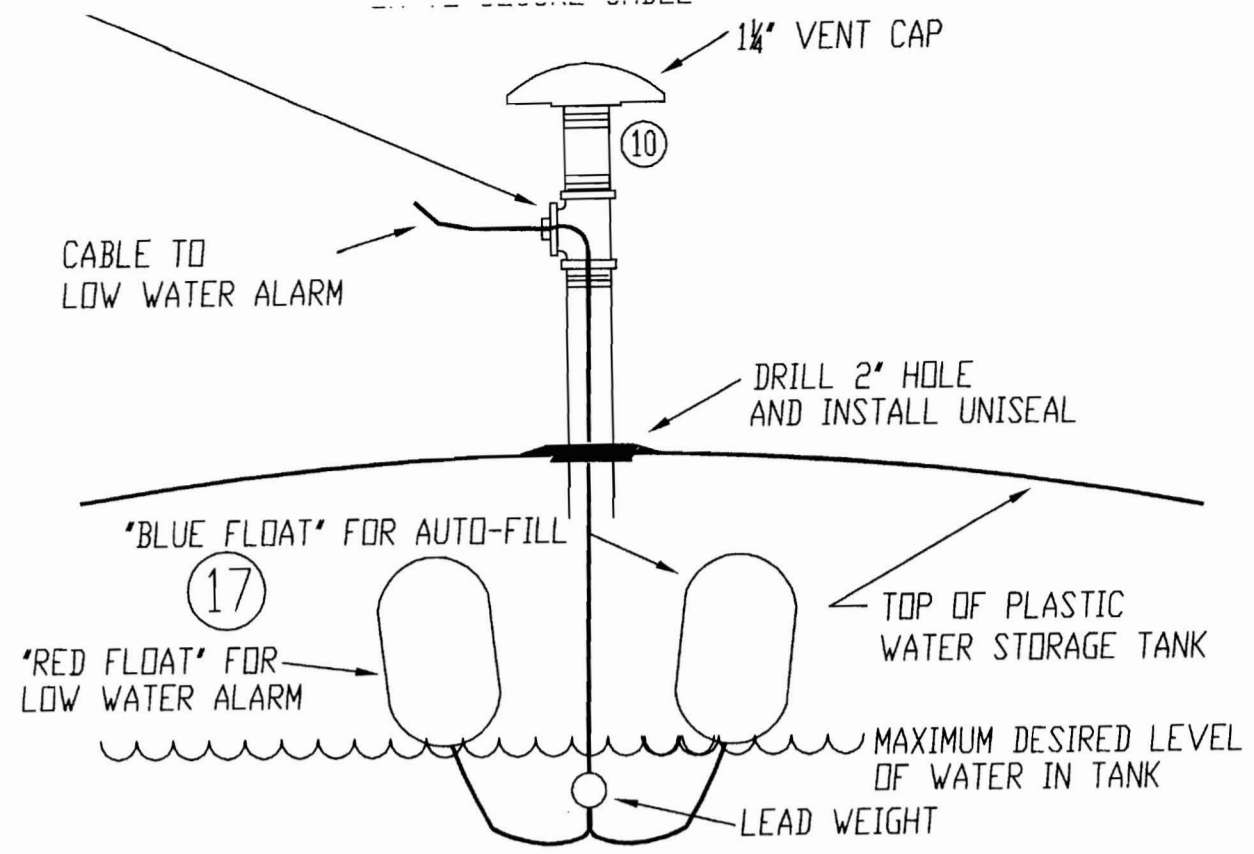
REMARKS

MAY - 4 2009
 VIA POSTAL MAIL

COPY TO File

SIGNED Daniel R. St. Pierre

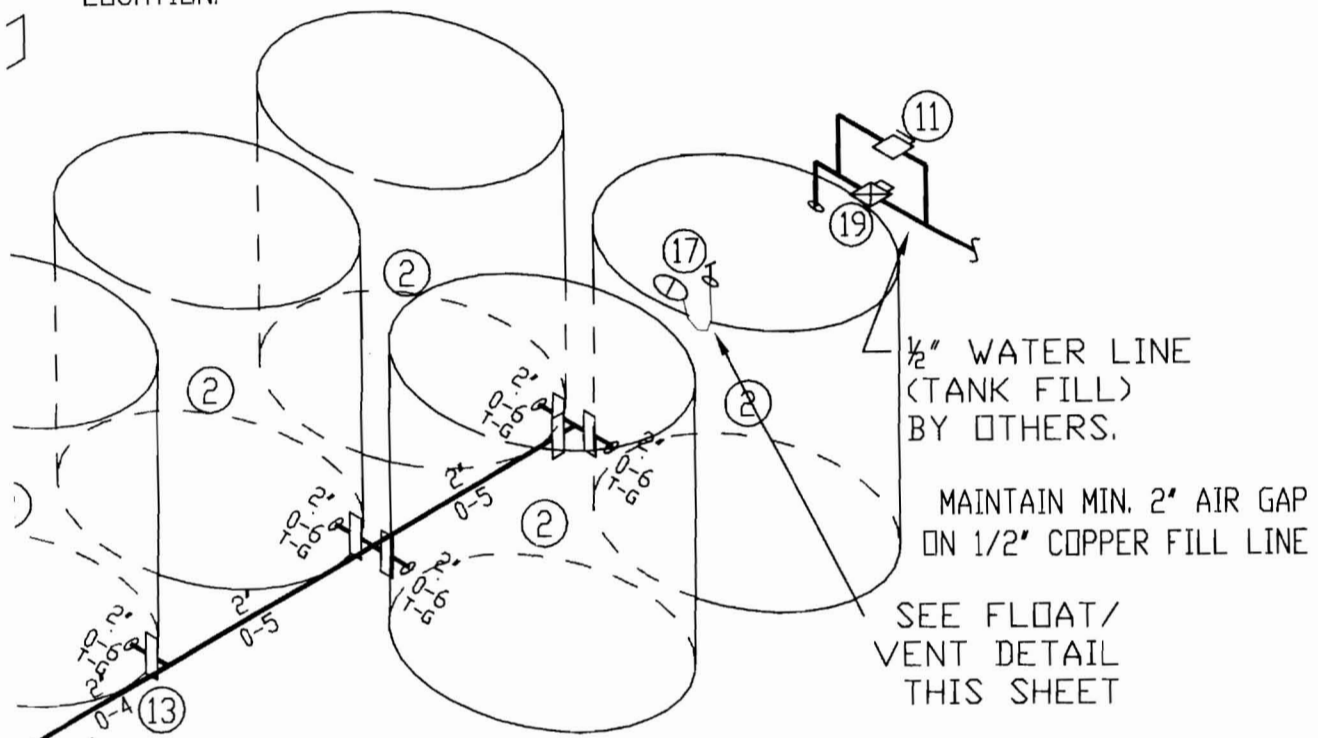
IBLY:
 SHER
 HER



NOTE:
 PUMP TO BE MONITORED FOR LOSS OF
 POWER AS A CONSTANTLY ATTENDED
 LOCATION.

VENT AND FLOAT DETAIL

DIAGRAMATIC NOT TO SCALE

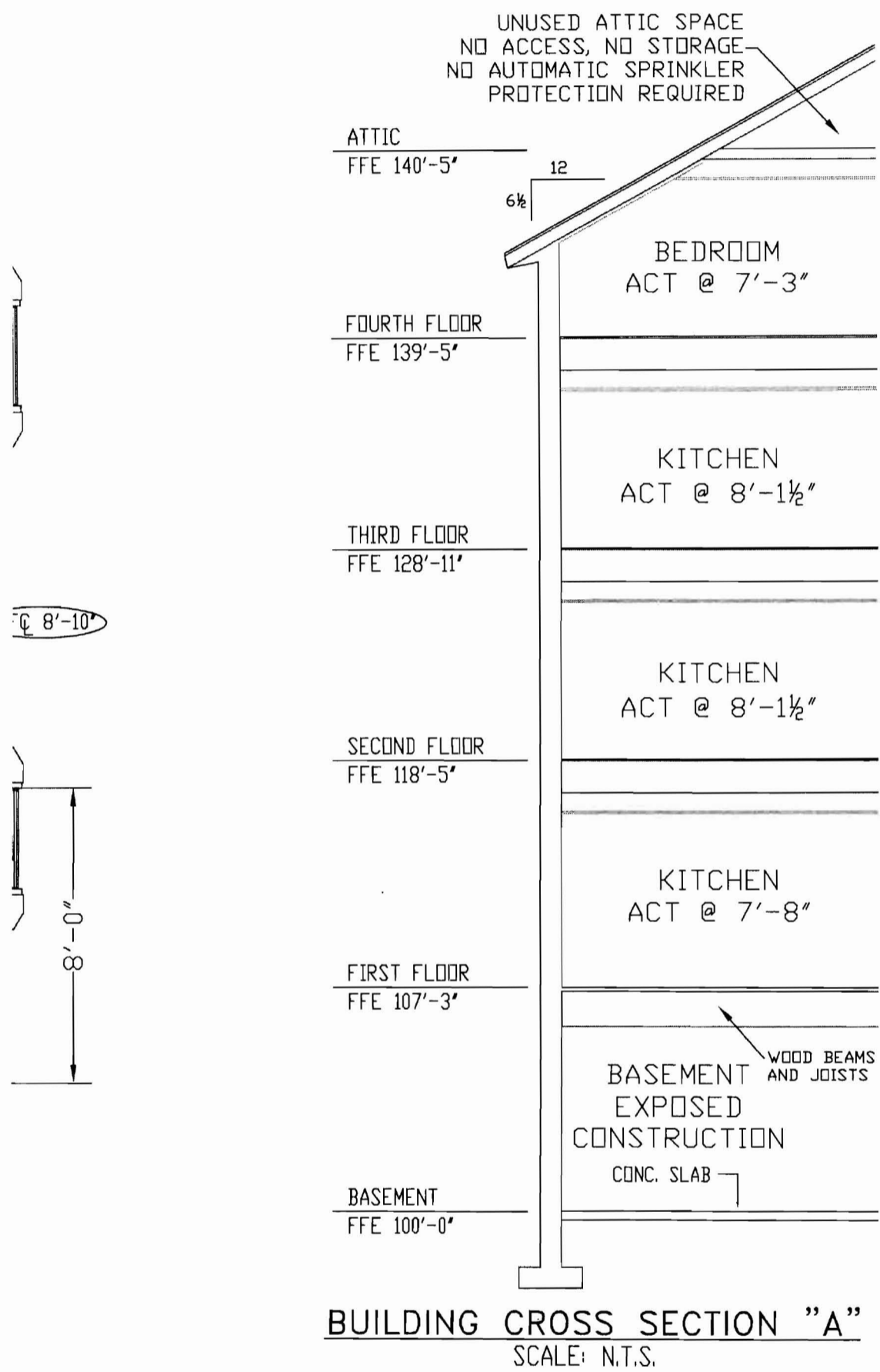


WATER STORAGE CAPACITY = 825 GALLONS

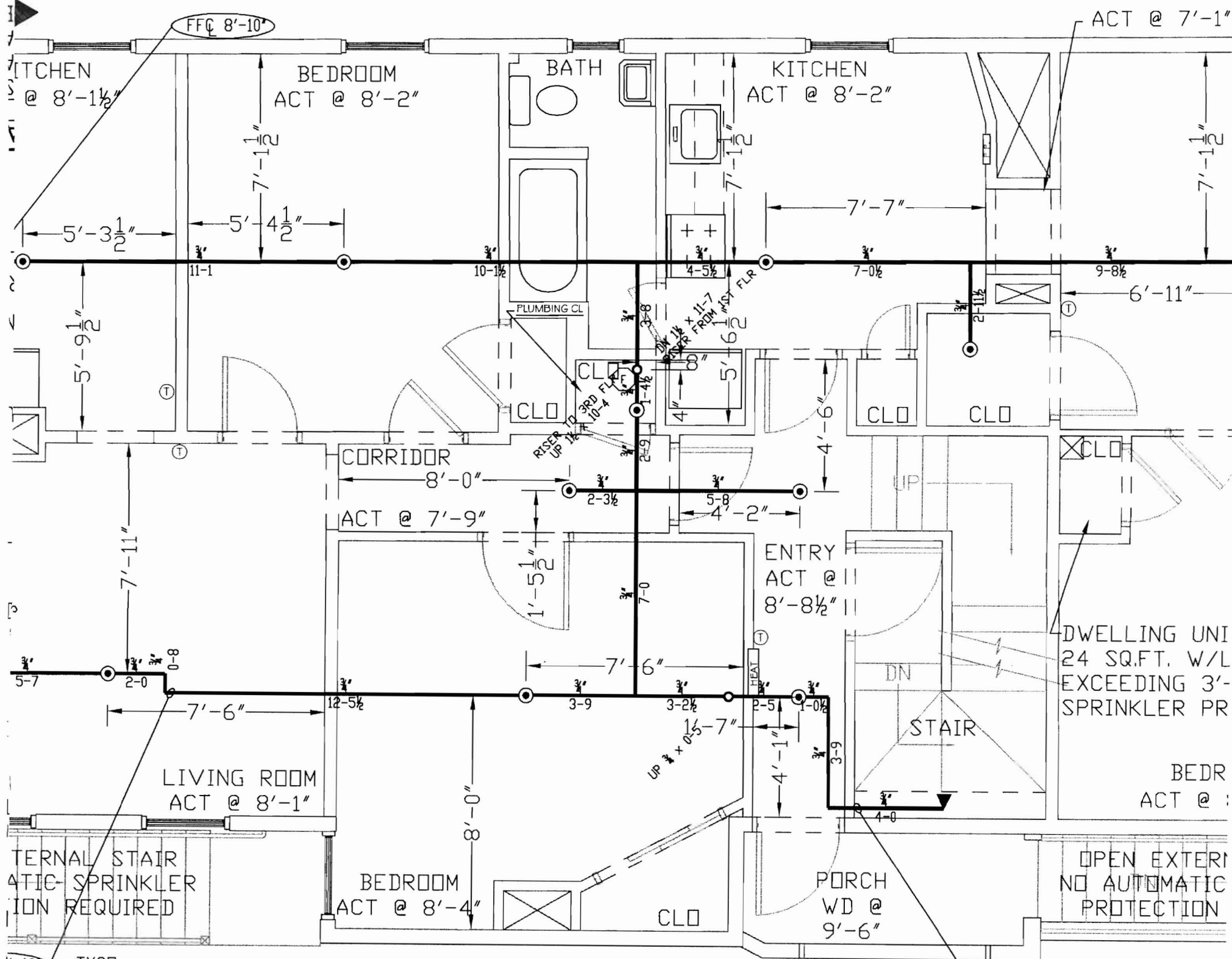
DETAIL

SUBMITTAL COPY

REQUIRED APPROVALS	22 PARK AVENUE PORTLAND, MAINE	FIRE SPRINKLER PLANS & DETAILS
OWNER / ARCHITECT STATE FIRE MARSHAL PORTLAND FIRE DEPARTMENT		DWG. NO. 1 OF 2
DRAWN BY DRS CET LEVEL I CERT.# 124667	CONTRACT WITH: THAXTER COMPANY	JOB NUMBER AU-4388-09
CHECKED BY WAF CET LEVEL III CERT.# 095574	 EASTERN FIRE PROTECTION AUBURN/LEWISTON INDUSTRIAL AIRPARK, AUBURN, MAINE 04210	SCALE AS NOTED
INTRACTOR LICENSE # 101		DATE 4/28/09
INTRACTOR RMS # 368		



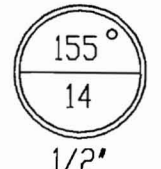
INSTALL 1¼" X 1¼" BY ½" TEE IN VENT PIPE
RUN CABLE UP THROUGH VENT PIPE AND



FIRE SPRINKLER PLAN - SECOND_FLOOR

SCALE: 1/4"=1'

AREA PROTECTED: 1658 SQ.FT.
 FINISH FLOOR ELEVATION: 118.42'



WHITE PENDENT
 (DN DROP)
 SIN# TY 2234
 K-FACTOR = 4.9

DWELLING UNIT
 24 SQ.FT. W/L
 EXCEEDING 3'-
 SPRINKLER PR

BEDR
 ACT @ :

OPEN EXTERI
 NO AUTOMATIC
 PROTECTION

TYCO
 MOD. 'LF-II'

FFC 9'-3"

FFC 8'-10"

ACT @ 7'-1"

KITCHEN
 ACT @ 8'-1 1/2"

BEDROOM
 ACT @ 8'-2"

BATH

KITCHEN
 ACT @ 8'-2"

CORRIDOR
 ACT @ 7'-9"

LIVING ROOM
 ACT @ 8'-1"

BEDROOM
 ACT @ 8'-4"

PORCH
 WD @
 9'-6"

STAIR

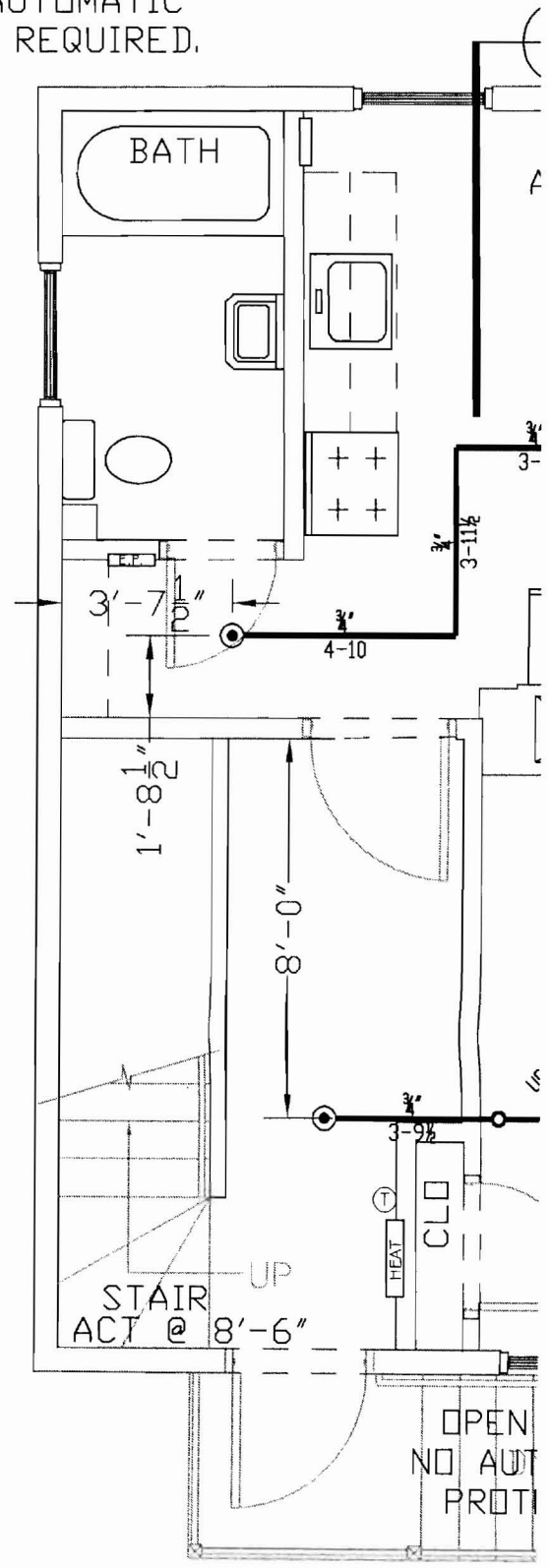
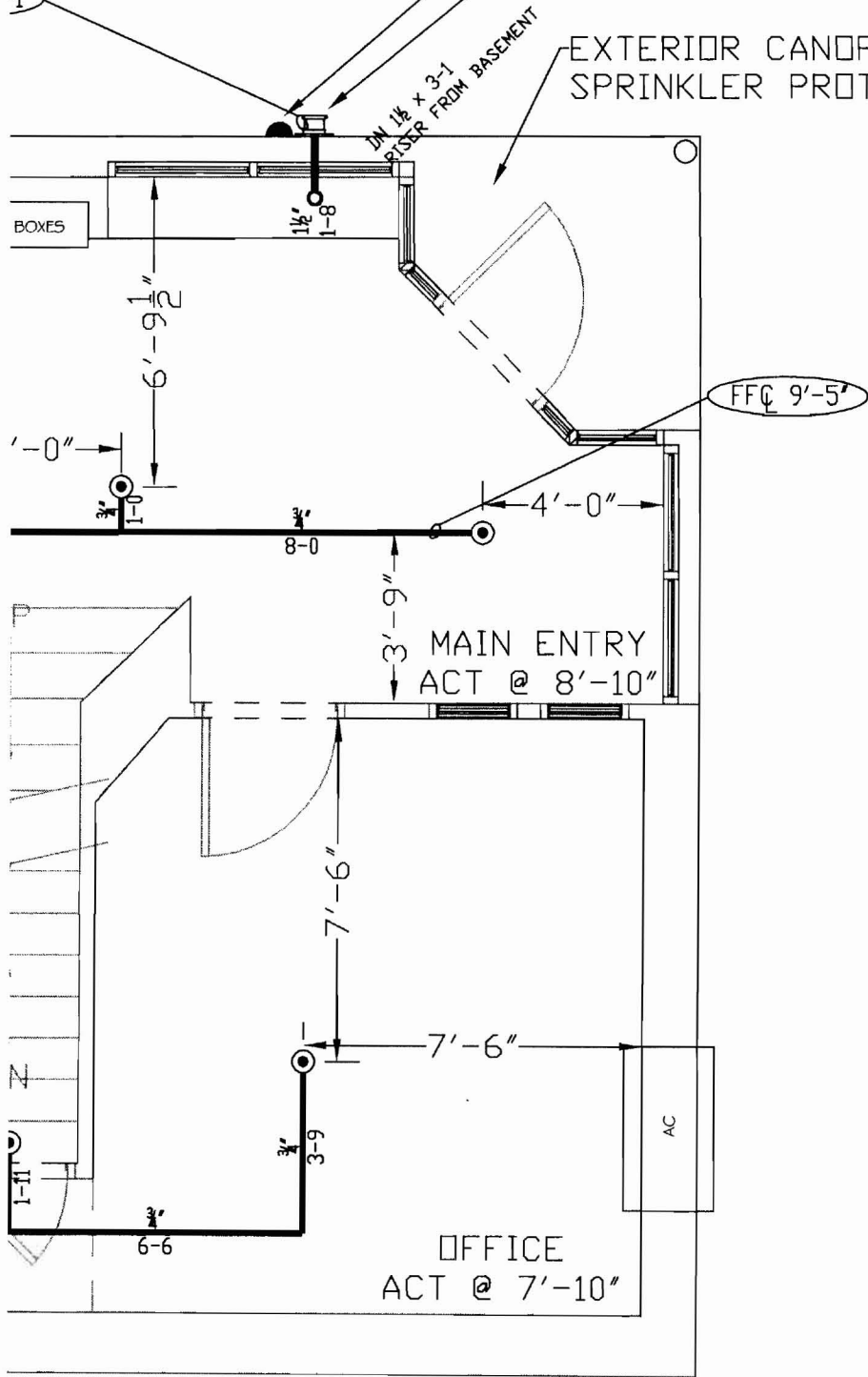
ENTRY
 ACT @ 11
 8'-8 1/2" 11

EXTERNAL STAIR
 AUTOMATIC SPRINKLER
 PROTECTION REQUIRED

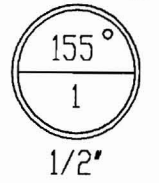
EXACT LOCATION AND HEIGHT OF
AUTOMATIC FIRE SYSTEM APPARATUS
TO BE COORDINATED IN FIELD.

- ⑨ ELECTRIC BELL
- ⑫ 4" STORZ FDC

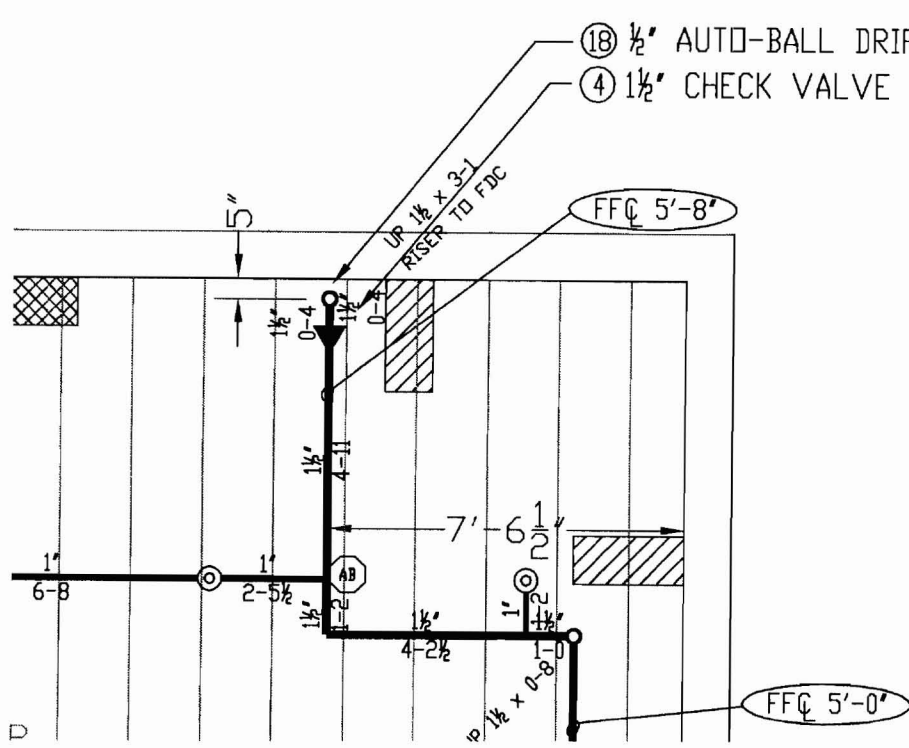
EXTERIOR CANOPY, NO AUTOMATIC
SPRINKLER PROTECTION REQUIRED.



TYCO
MOD. 'LF-II'

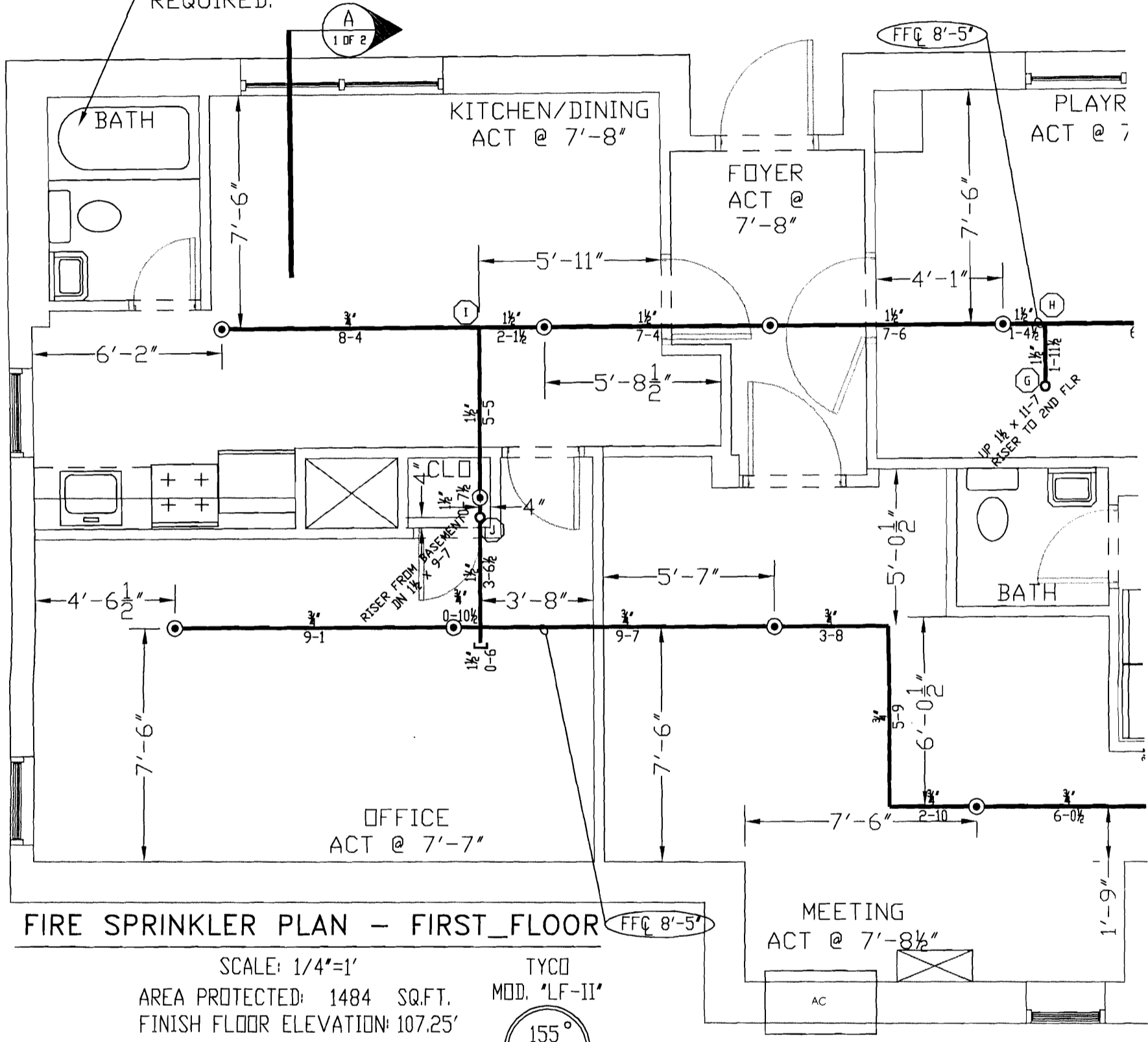


WHITE HORIZON
SIDEWALL
SIN# TY 1334
K-FACTOR = 4



3
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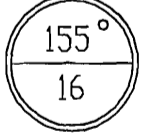
BATHROOM LESS THAN 55 SQ.FT. NO AUTOMATIC SPRINKLER PROTECTION REQUIRED.



FIRE SPRINKLER PLAN - FIRST_FLOOR

SCALE: 1/4"=1'
 AREA PROTECTED: 1484 SQ.FT.
 FINISH FLOOR ELEVATION: 107.25'

TYCO
 MOD. 'LF-II'

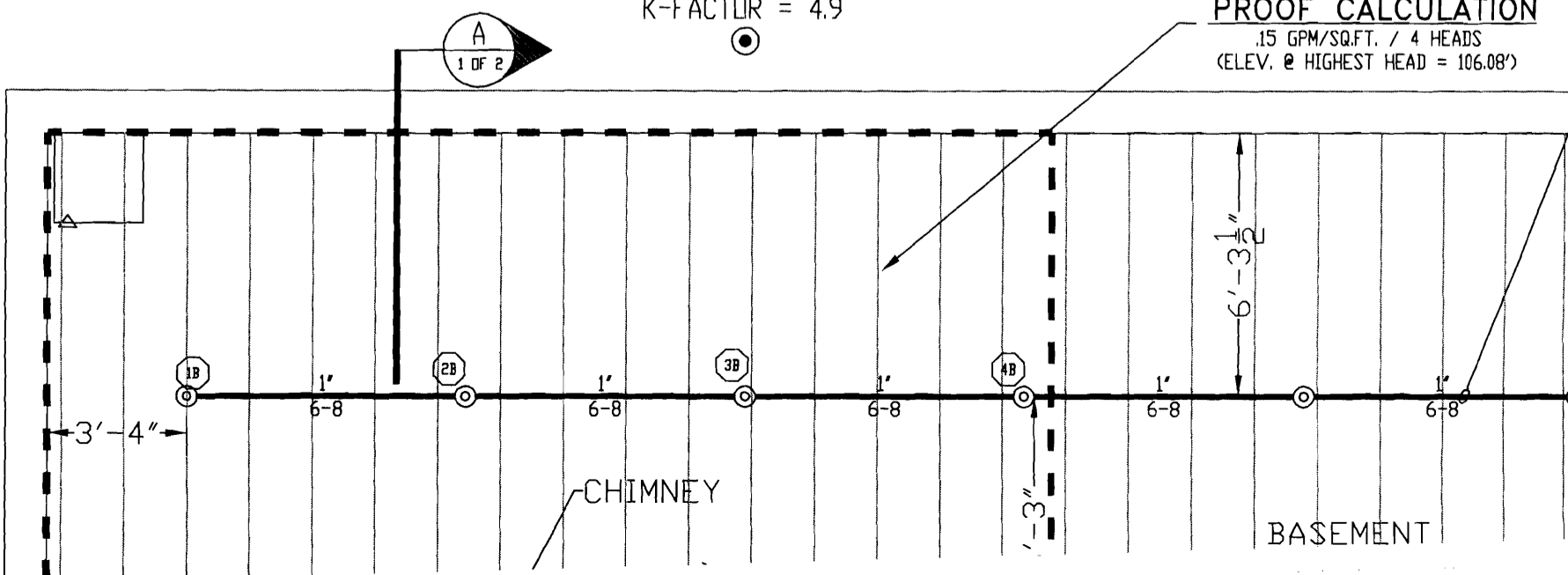


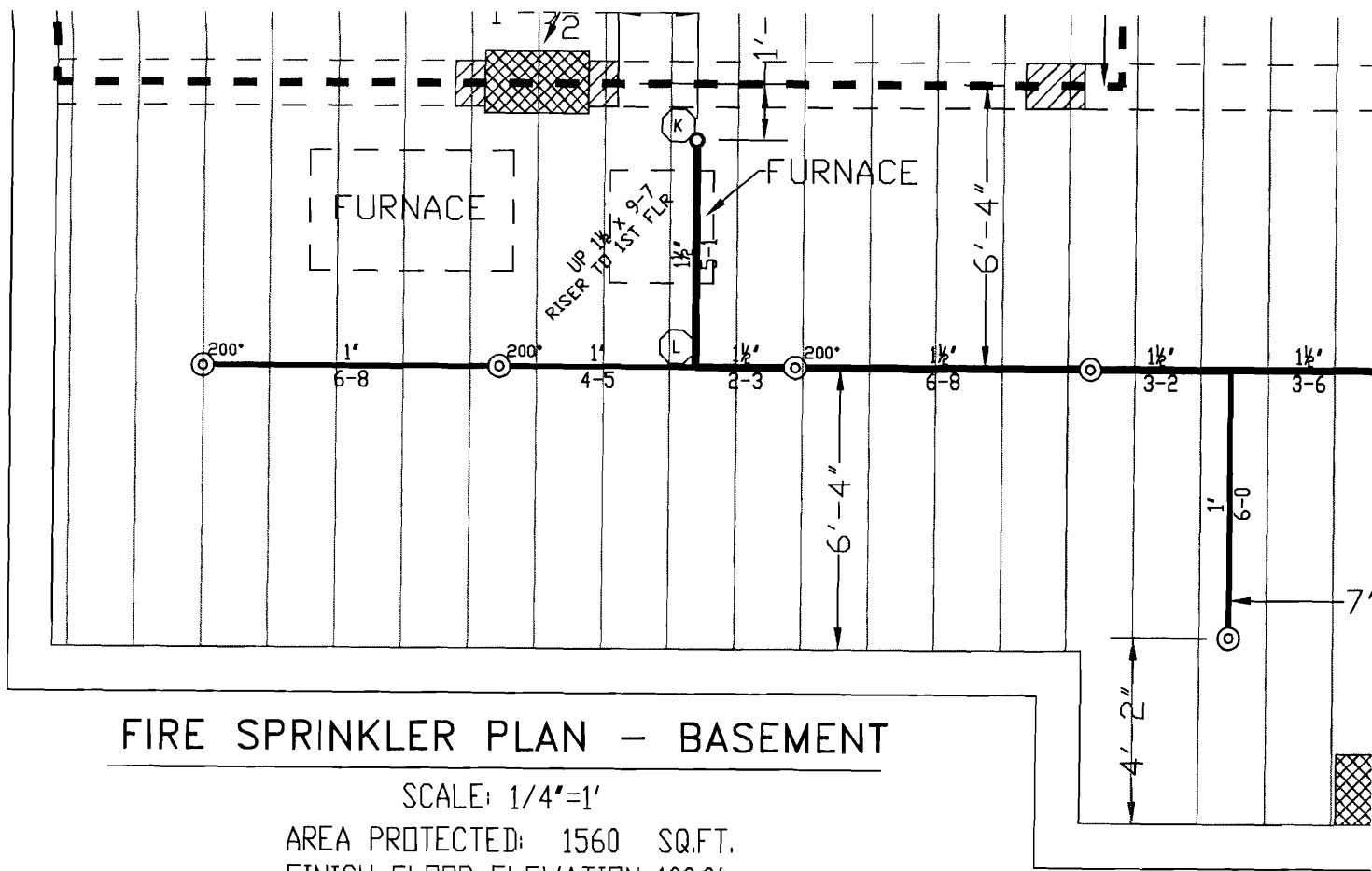
1/2"
 WHITE PENDENT
 (ON DROP)
 SIN# TY 2234
 K-FACTOR = 4.9

NOTE: 4-HEAD REMOTE AREA BASEMENT PER RULING OF ELLIS, STATE FIRE MARSHAL OFFICE.

BASEMENT PROOF CALCULATION

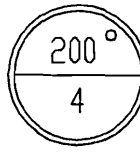
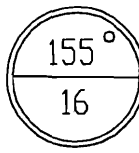
.15 GPM/SQ.FT. / 4 HEADS
 (ELEV. @ HIGHEST HEAD = 106.08')



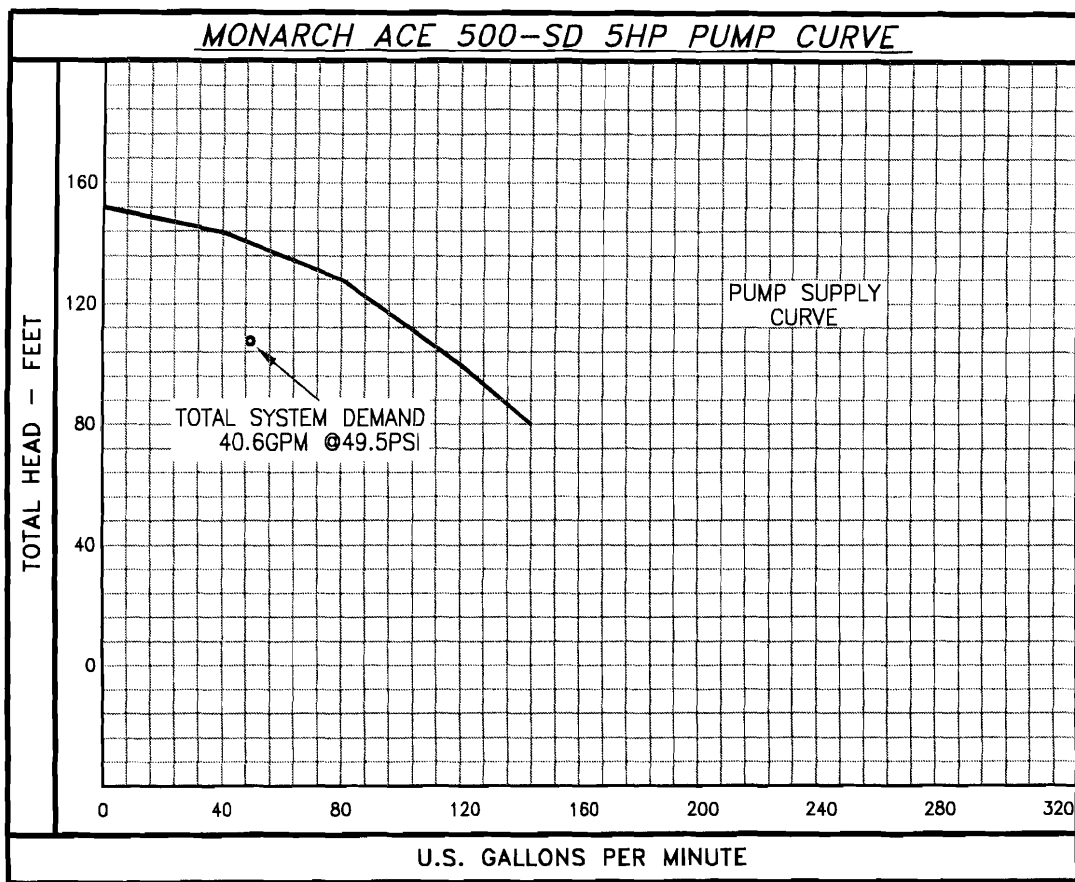


FIRE SPRINKLER PLAN - BASEMENT

SCALE: 1/4"=1'
 AREA PROTECTED: 1560 SQ.FT.
 FINISH FLOOR ELEVATION: 100.0'

TYCO MOD. 'TY-FRB'	TYCO MOD. 'TY-FRB'
	
1/2"	1/2"
BRASS UPRIGHT (ON SPRIG)	BRASS UPRIGHT (ON SPRIG)
SIN# TY 2131	SIN# TY 2131
K-FACTOR = 4.2	K-FACTOR = 4.2
⊙ 200°	⊙

DESIGN CR
 SPRINKLER
 NFPA 13R-
 DEPARTMEN
 OFFICE, A
 INSTALLAT
 TANKS.



DIMENSIONS

PUMP MODEL NO.	MOTO FRAM
ACE-500SD	184JI

MOTOR DATA

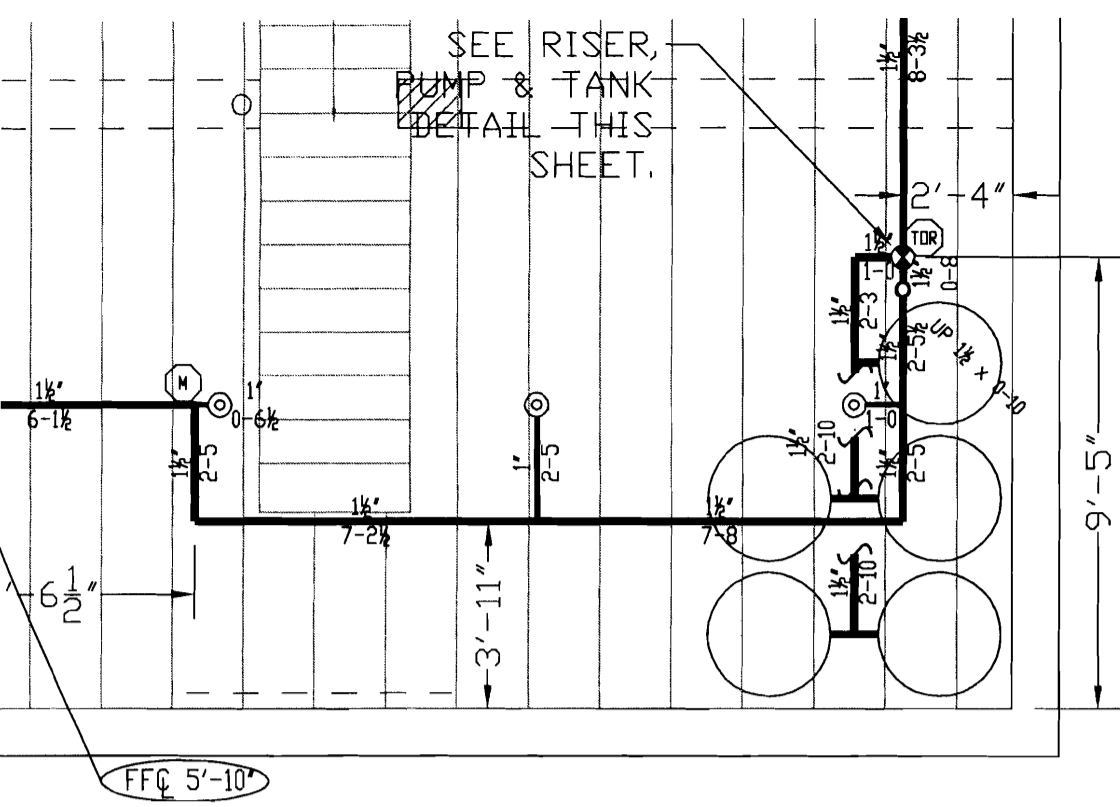
60 HERTZ SINGL 115/230 VOLT, :	
PUMP MODEL NO.	HORS POWI
ACE-500SD	5 (23

NOTE

A)-ALL ELE
 THE PUMP P
 AS TO ACTI
 EVENT OF]

0 GPM = 67 PSI	60 GPM = 60.5 PSI	120 GPM = 43 PSI
20 GPM = 66 PSI	80 GPM = 56 PSI	140 GPM = 35 PSI
40 GPM = 63 PSI	100 GPM = 50 PSI	

TO CONVERT TOTAL HEAD-FEET INTO P.S.I.



INSTALLATION TO COMPLY WITH REAU OF THE PORTLAND FIRE THE STATE FIRE MARSHAL'S 'PLY IS ACCEPTABLE WITH THE FILL VALVE FOR THE WATER

- ALL WIRING TO BE DONE BY OTHERS
- ALTHOUGH NOT SPECIFIED, SOME SPRINKLER HE BEEN SHOWN @ CENTERLINE OF TILE. ACTUAL OF HEADS WITH RESPECT TO CEILING COMPONE VARY ACCORDING TO FIELD CONDITIONS.
- SPRINKLER SYSTEM INSTALLATION TO COMPLY NFPA PAMPHLET # 13R, 2007 EDITION, EXCEPT PER ERIC ELLIS OF THE STATE FIRE MARSHAL KEITH GAUTREAU OF THE PORTLAND FIRE DEPA
1. WATER SUPPLY TO BE 15 MINUTE DURATION
 2. THE SPRINKLER SYSTEM PUMP DOES NOT NE
 3. THE SPRINKLER SYSTEM PUMP CONTROLLER FOR FIRE SERVICE
 4. THE SPRINKLER SYSTEM PUMP POWER SUPPL AND NFPA #70, ARTICLE 695, PERMISSIBLE SERVICE THAT SUPPLIES THE BUILDING.
 5. THE SPRINKLER SYSTEM PUMP WILL PROVIDE, AS SUCH NO JOCKEY PUMP REQUIRED TO MA
 6. THE SPRINKLER SYSTEM PUMP WILL BE MON. LOCATION FOR LOSS OF POWER.

ALL DIMENSIONS ARE SHOWN FOR GENERAL LOF SPRINKLER HEADS ; PIPING MAY VARY TO SUIT, FIELD CONDITIONS.

ACOUSTICAL CEILING TILE (ACT) TO BE LISTE. NON-COMBUSTIBLE WITH UL FLAME SPREAD OF. THAN 25.

OCCUPANCY DESCRIPTION AND CLASSIFICATION: APARTMENT DWELLING UNITS, OFFICES, AND CO BASEMENT AREAS ORDINARY HAZARD GROUP I

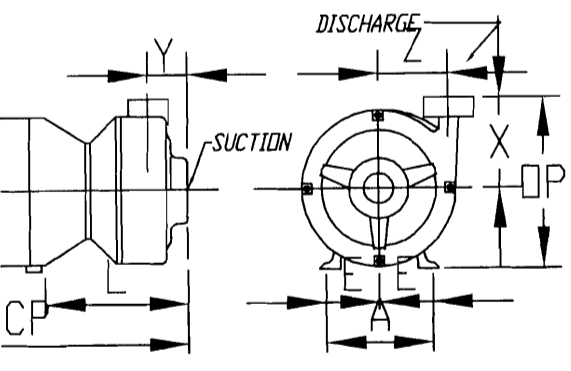
STORAGE OF MATERIAL SHALL NOT EXCEED 8'- IN HEIGHT.

SPRINKLER HEADS IN OCCUPIED AREAS TO BE QU SPRINKLER HEADS IN THE BASEMENT TO BE QU

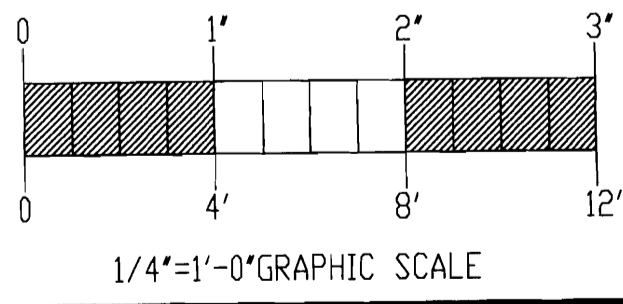
DFG INDICATES OUTSIDE FACE OF GIRT.
 ○ = INDICATES HYDRAULIC REFERENCE POIN
 F.F. ⊕ INDICATES FINISH FLOOR UP TO CENTER,
 D ⊕ INDICATES DECK DOWN TO CENTERLINE OF

MOTOR DATA

L	□ MAX.	X	Y	Z	CP MAX.	□P
8 3/4	10 1/4	6 1/4	3 1/4	5 3/4	19	10 1/4



NG TO BE DONE BY OTHERS
 NITORED IN SUCH A MANNER
 RM IN THE
 OWER CIRCUIT



GENERAL NFPA

- SPRINKLER SYSTEM DESIGN & INSTALLATION TO COMPLY WITH NFPA PAMPHLET # 13R-2007
- OWNER TO PROVIDE SUFFICIENT HEAT THROUGHOUT THE BUILDING TO PREVENT FREEZING OF WATER FILLED SPRINKLER PIPING AND EQUIPMENT (MIN. 40° F).
- ALL EXPOSED SPRINKLER PIPING 1" TO 1 1/2" TO BE SCH-40 BLACK, JOINED W/ THREADED DUCTILE IRON FITTINGS. ALL PIPING 2" DIA. TO BE SCH-10 W/ GROOVED ENDS & WELDED OUTLETS JOINED BY MECHANICAL COUPLINGS.
- ALL CONCEALED PIPING TO BE CPVC PLASTIC PIPE JOINED WITH PLASTIC GLUED FITTINGS (C=150).

SET AND CURE TIMES

Solvent cement set and cure times are a function of pipe size, temperature, relative humidity, and tightness of fit. Drying time is faster for drier environments, smaller pipe sizes, high temperatures, and tighter fits. The assembly must be allowed to set, without any stress on the joint, for 1 to 5 minutes, depending on the pipe size and temperature. Following the initial set period, the assembly can be handled carefully avoiding significant stresses to the joint. Refer to the cure time tables for minimum cure times prior to pressure testing.

Once an installation is completed and cured, per the appropriate table, the system should be tested at 200 psi for 2 hours, or at 50 psi in excess of the maximum pressure when the maximum pressure to be maintained in the system is in excess of 150 psi, in accordance with the requirements established by NFPA 13. Sprinkler systems in one and two family dwellings and mobile homes may be tested at line pressure in accordance with the requirements established by NFPA 13D. When pressure testing, the sprinkler system shall be filled with water and air bled from the highest and farthest sprinkler head before test pressure is applied. Air or compressed gas should never be used for pressure testing. If a leak is found, the fitting must be cut out and discarded. A new section can be installed using couplings or a union. Unions should be used in accessible area only.

WARNING

Sprinkler heads shall be installed only after all the CPVC pipe and fittings, including the sprinkler head adapters, are solvent welded to the piping and allowed to cure for a minimum of 30 minutes. Sprinkler head fittings should be visually inspected and probed with a wooden dowel to insure that the water way and threads are clear of any excess cement.

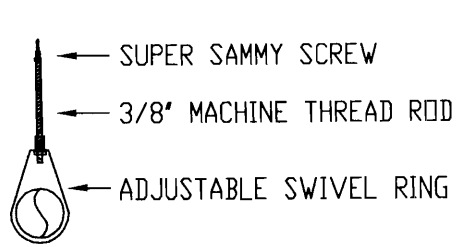
It is an unacceptable practice to thread the sprinkler head into the adapter fitting prior to cementing the adapter to the drop.

CURE TIMES WITH ONE STEP SOLVENT CEMENT 200 psi (MAXIMUM) TEST PRESSURE			
PIPE SIZE inches	Ambient Temperature During Cure Period		
	60°F to 120°F	40°F to 59°F	0°F to 39°F
3/4"	45 min.	1.5 hr.	24 hr.
1"	45 min.	1.5 hr.	24 hr.
1-1/4"	1.5 hr.	16 hr.	120 hr.
1-1/2"	1.5 hr.	16 hr.	120 hr.
2"	6 hr.	36 hr.	See Note 1
2-1/2"	8 hr.	72 hr.	See Note 1
3"	8 hr.	72 hr.	See Note 1

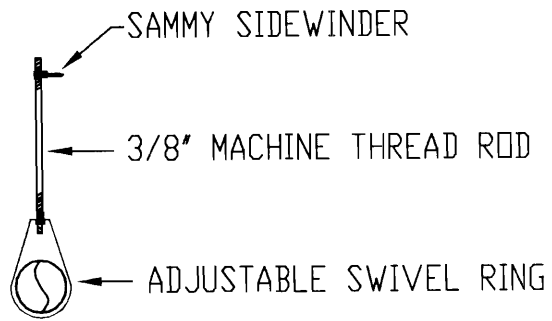
Note 1 For these sizes, the solvent cement can be applied at temperatures below 32°F, however, the sprinkler system temperature must be raised to a temperature of 32°F or above and allowed to cure per the above recommendations prior to pressure testing.

SUBMITTAL COPY

REQUIRED APPROVALS	22 PARK AVENUE PORTLAND, MAINE	FIRE SPRINKLER PLANS & DETAILS
OWNER / ARCHITECT STATE FIRE MARSHAL PORTLAND FIRE DEPARTMENT		DWG. NO. 2 OF 2
DRAWN BY DRS NICET LEVEL I CERT.# 124667		CONTRACT WITH: THAXTER COMPANY
CHECKED BY WAF NICET LEVEL III CERT.# 095574	 EASTERN FIRE PROTECTION AUBURN/LEWISTON INDUSTRIAL AIRPARK, AUBURN, MAINE 04210	SCALE AS NOTED
CONTRACTOR LICENSE # 101		DATE 4/28/09
CONTRACTOR RMS # 368		



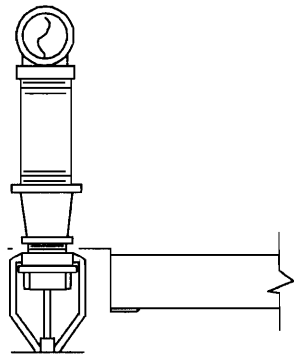
HANGER # 17



HANGER # 18

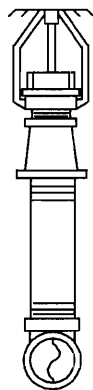
HANGERS TO BE PROVIDED AND
 INSTALLED AS PER NFPA #13R, 2007 ED.
 3/8" ROD FOR 1" TO 4" PIPE

HANGER DETAILS
 NOT TO SCALE



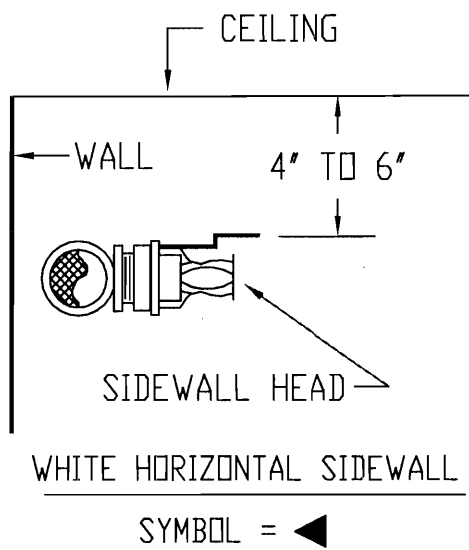
WHITE PENDENT

SYMBOL = ⊙



AS UPRIGHT ON SPRIG

SYMBOL = ⊙



SPRINKLER HEAD DETAILS

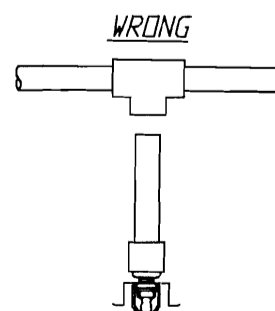
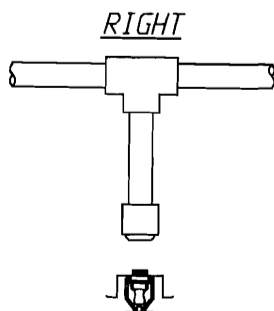
NOT TO SCALE

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MINIMUM REQUIREMENTS

TEMPERATURE (°F/°C)	MINIMUM FLOW & PRESSURE FOR SLOPED CEILING (MAX. 8' RISE FOR 12' RUN)	
	155°F/68°C	175°F/79°C
12.0psi	13GPM(7.0psi)	17GPM(12.0psi)
12.0psi	13GPM(7.0psi)	17GPM(12.0psi)
12.0psi	13GPM(7.0psi)	17GPM(12.0psi)
12.0psi	17GPM(12.0psi)	17GPM(12.0psi)
16.7psi	21GPM(18.4psi)	22GPM(20.2psi)

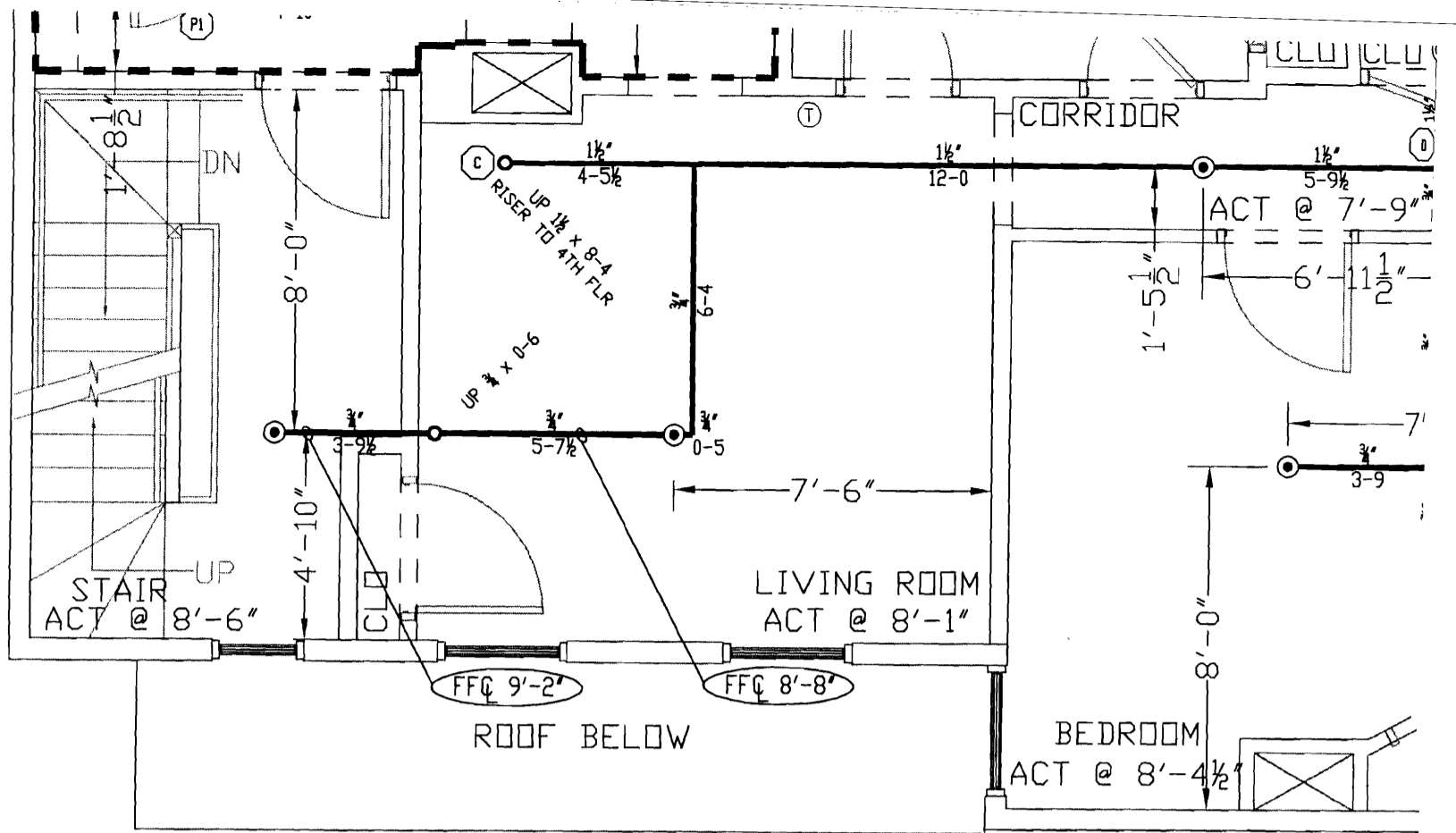
16'-0" BETWEEN HEADS
MINIMUM HEADS



*Thread the sprinkler into
the adapter fitting only
after the recommended
cure time*

*Do not pre-assemble the
drop assembly with the
sprinkler head prior to
cementing all joints*

**CPVC SPRINKLER HEAD
INSTALLATION DETAIL**



FIRE SPRINKLER PLAN - THIRD_FLOOR

TYCO
MOD. 'LF-II'



1/2"

WHITE PENDENT
(ON DROP)
SIN# TY 2234
K-FACTOR = 4.9



SCALE: 1/4"=1'

AREA PROTECTED: 1658 SQ.FT.
FINISH FLOOR ELEVATION 128.92'

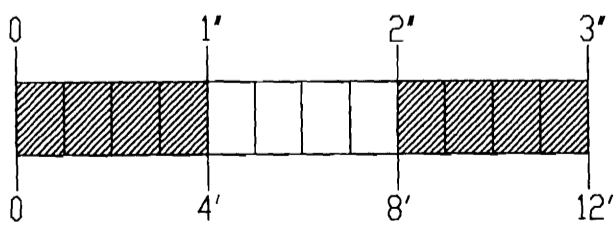
TO ANTI-FREEZE S

ITEM	QUAN	DESCRIPTION
A	2	1/4" GLOBE VALVE W/O-SP NIP & PLUG
B	2	1 1/2 x 1 1/2 x 1/4 TEE
C	2	3/4" GLOBE VALVE W/O-SP NIP & PLUG
D	2	1 1/2 x 3/4 x 1 1/2 TEE
E	1	1 1/2" BUTTERBALL VALVE W/CHAIN & LD
F	1	ANTI-FREEZE SIGN W/CHAIN
G	1	1 1/2" CHECK VALVE W/ 1/32" HOLE IN CLAPPER
H	2	1 1/2" STEEL TO CPVC ADAPTER

ANTI-FREEZE SOLUTION TO BE GLYCERINE WITH A MIXTURE RATIO OF 70% GLYCERINE AND 30% WATER FOR A FREEZE POINT OF APPROXIMATELY -26°F.

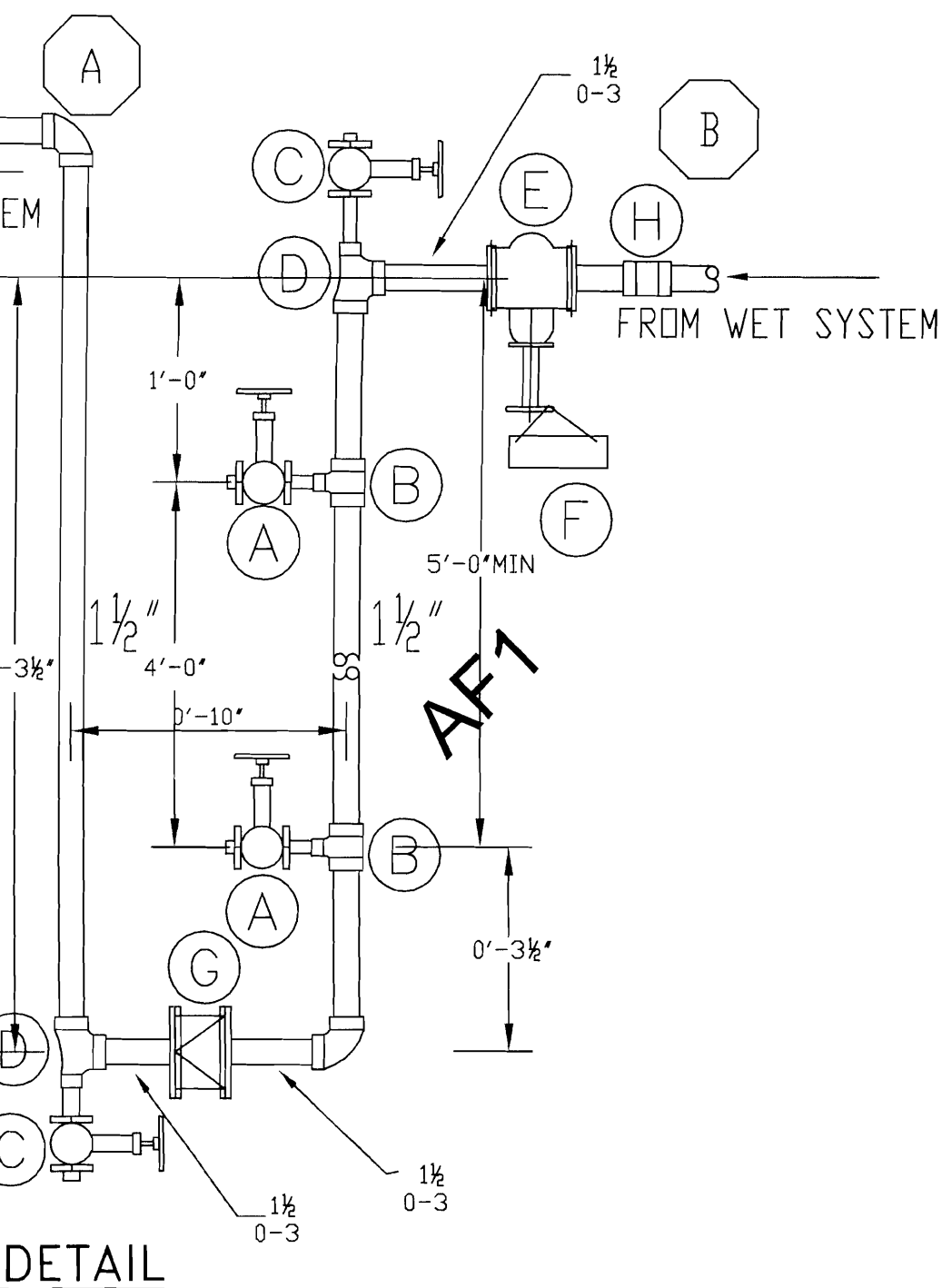
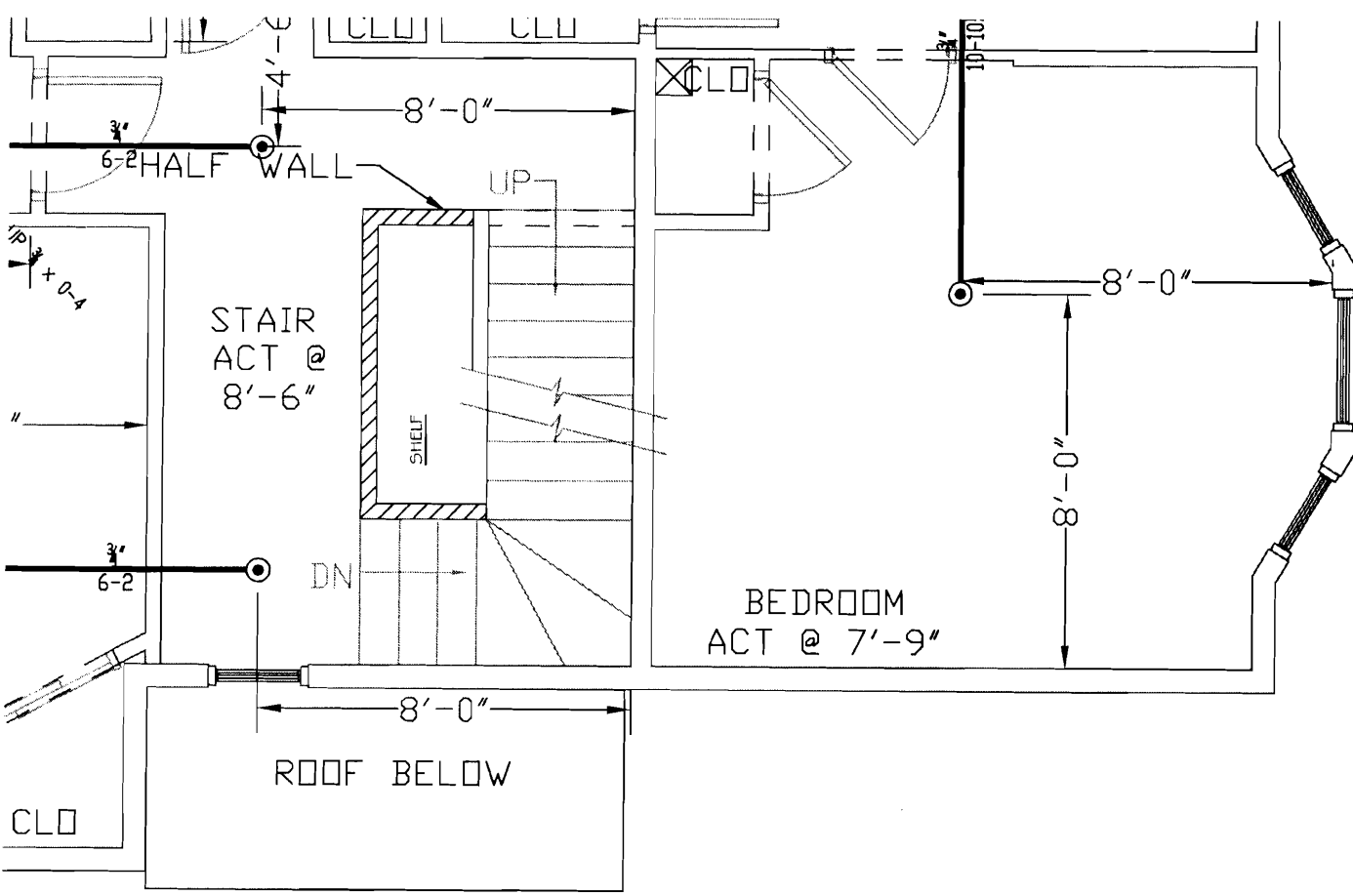
SYSTEM CAPACITY = 5.6 GALLONS GLYCERINE &
2.6 GALLONS WATER

SYSTEM CAPACITY = 8.0 GALLONS



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

ANTI-FREEZE LOC
SCALE: N.T.S.



DETAIL

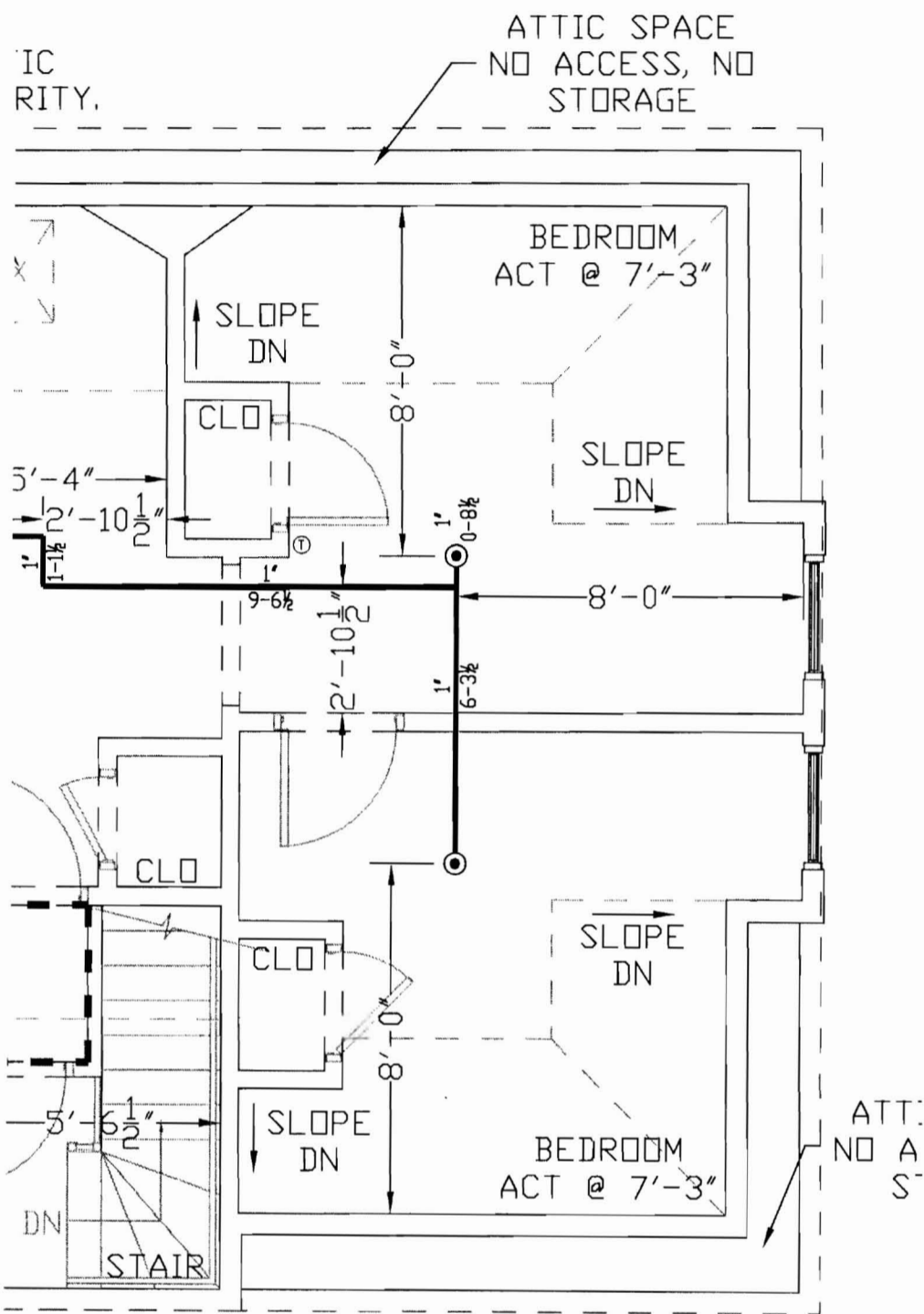
GENERAL NFPA

SPRINKLER SYSTEM DESIGN & INSTALLATION TO COMPLY WITH NFPA PAMPHLET # 13R-2007

OWNER TO PROVIDE SUFFICIENT HEAT THROUGHOUT THE BUILDING TO PREVENT FREEZING OF WATER FILLED SPRINKLER PIPING AND EQUIPMENT (MIN. 40° F).

ALL EXPOSED SPRINKLER PIPING 1" TO 1 1/2" TO BE SCH-40 BLACK, JOINED W/ THREADED DUCTILE IRON FITTINGS. ALL PIPING 2" DIA. TO BE SCH-10 W/ GROOVED ENDS & WELDED OUTLETS JOINED BY MECHANICAL COUPLINGS.

ALL CONCEALED PIPING TO BE CPVC PLASTIC PIPE JOINED WITH PLASTIC GLUED FITTINGS (C=150).



R)
 LY MOST
 AREA
 @ 7 PSI E.H.P.
 (AD = 146'-8')

LF II RESIDENTIAL

MODEL	COVERAGE AREA		MINIMUM DEFLECT
	MAX. SPACE BETWEEN SPRINKLERS	MAXIMUM LOCATION FROM WALL	
			155°F/68°C
LF II RECESSED PENDENT	12 x 12	6'(OR LESS)	130
	14 x 14	7'	130
	16 x 16	8'	130
	18 x 18	9'	170
	20 x 20	10'	200

MAXIMUM HEAD SPACING 8'
 MINIMUM S

HYDRAULIC-SYSTEM

THIS BUILDING IS PROTECTED BY A HYDRAULICALLY DESIGNED AUTOMATIC SPRINKLER SYSTEM.

LOCATION: FOURTH FLOOR

NFPA # 13R

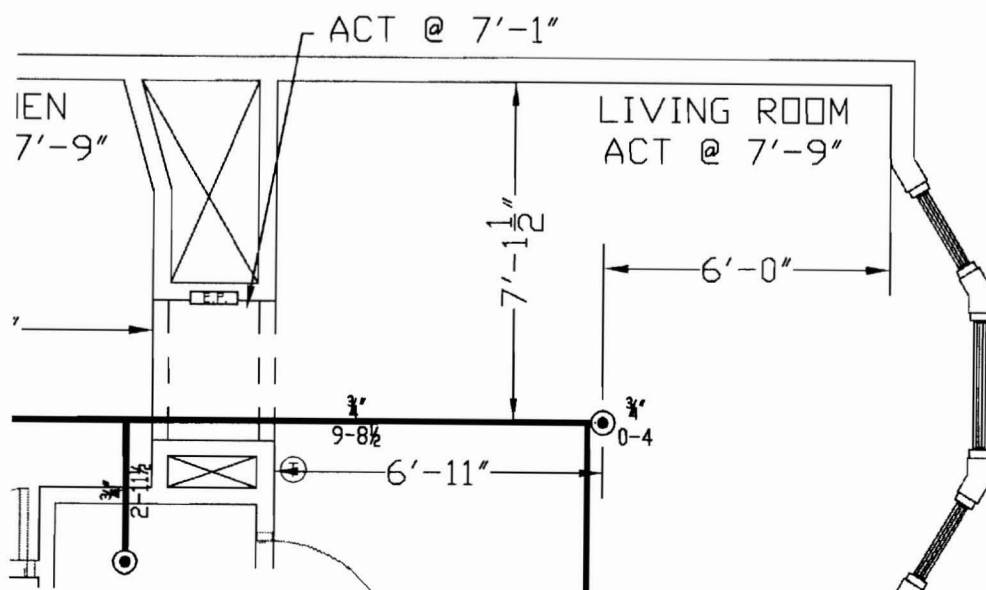
BASIS OF DESIGN:

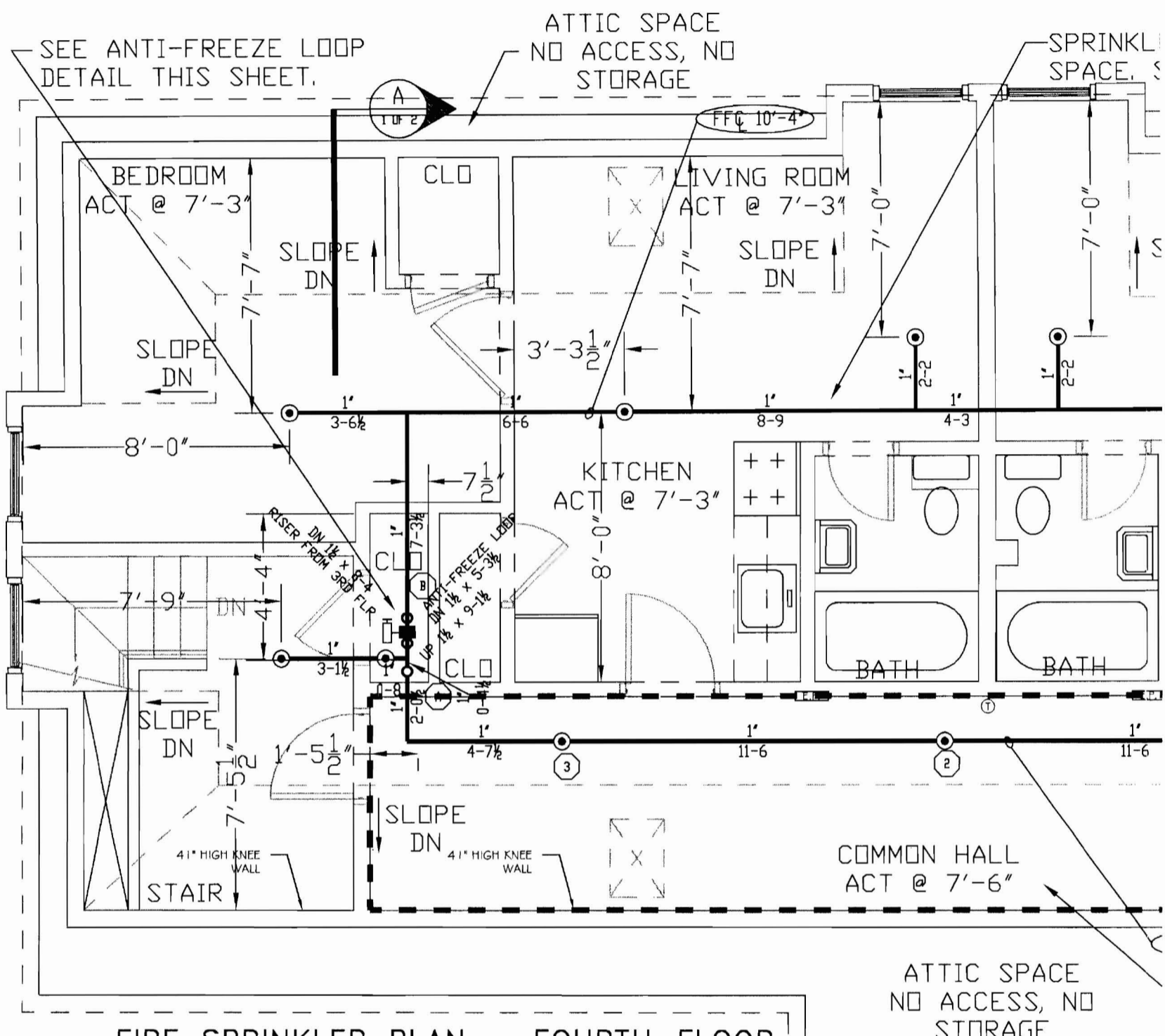
1. GPM PER HEAD	13
2. NUMBER OF HEADS CALCULATED	3

SYSTEM DEMAND:

1. WATER FLOW RATE (GPM)	40.6
2. RESIDUAL PRESSURE AT THE PUMP.	49.5 (PSI)

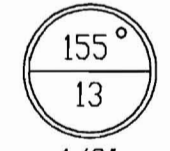
HYDRAULIC DATA NAMEPI
 TO BE MOUNTED AT SYSTEM RISER





FIRE SPRINKLER PLAN - FOURTH_FLOOR

TYCO
 MOD. 'LF-II'
 SCALE: 1/4"=1'
 AREA PROTECTED: 1359 SQ.FT.
 FINISH FLOOR ELEVATION 139.42



1/2"
 WHITE PENDENT
 (ON DROP)
 SIN# TY 2234
 K-FACTOR = 4.9

**THIRD FLOOR
 PROOF CALCULATION**

2 HEAD CALCULATION @ 7 PSI E.H.P.
 (ELEV. @ HIGHEST HEAD = 138'-0")

