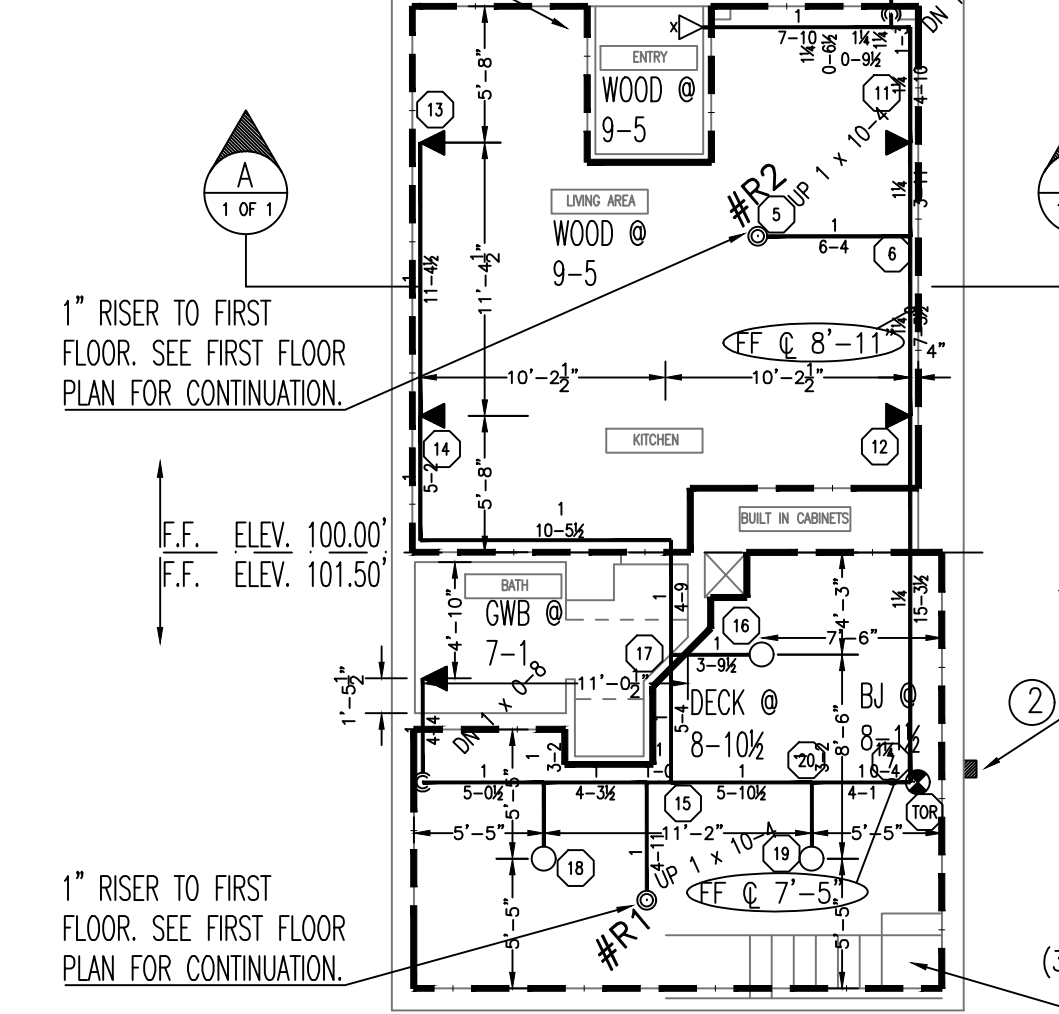


**(BASEMENT APT.)
HYDRAULIC PROOF
CALCULATION**

(4 HEAD CALCULATION @ 7.5 PSI E.H.P.)
(ELEV. @ HIGHEST HEAD = 108.92')



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

LOCATION: FIRST FLOOR

NFPA # 13R

BASIS OF DESIGN:

1. GPM PER HEAD	16
2. NUMBER OF HEADS CALCULATED	2

SYSTEM DEMAND:

1. WATER FLOW RATE (GPM)	31.98
2. RESIDUAL PRESSURE AT THE BASE OF THE RISER (PSI)	41.352

HYDRAULIC DATA NAMEPLATE

TO BE MOUNTED AT SYSTEM RISER

(BASEMENT) HYDRAULIC PROOF CALCULATION

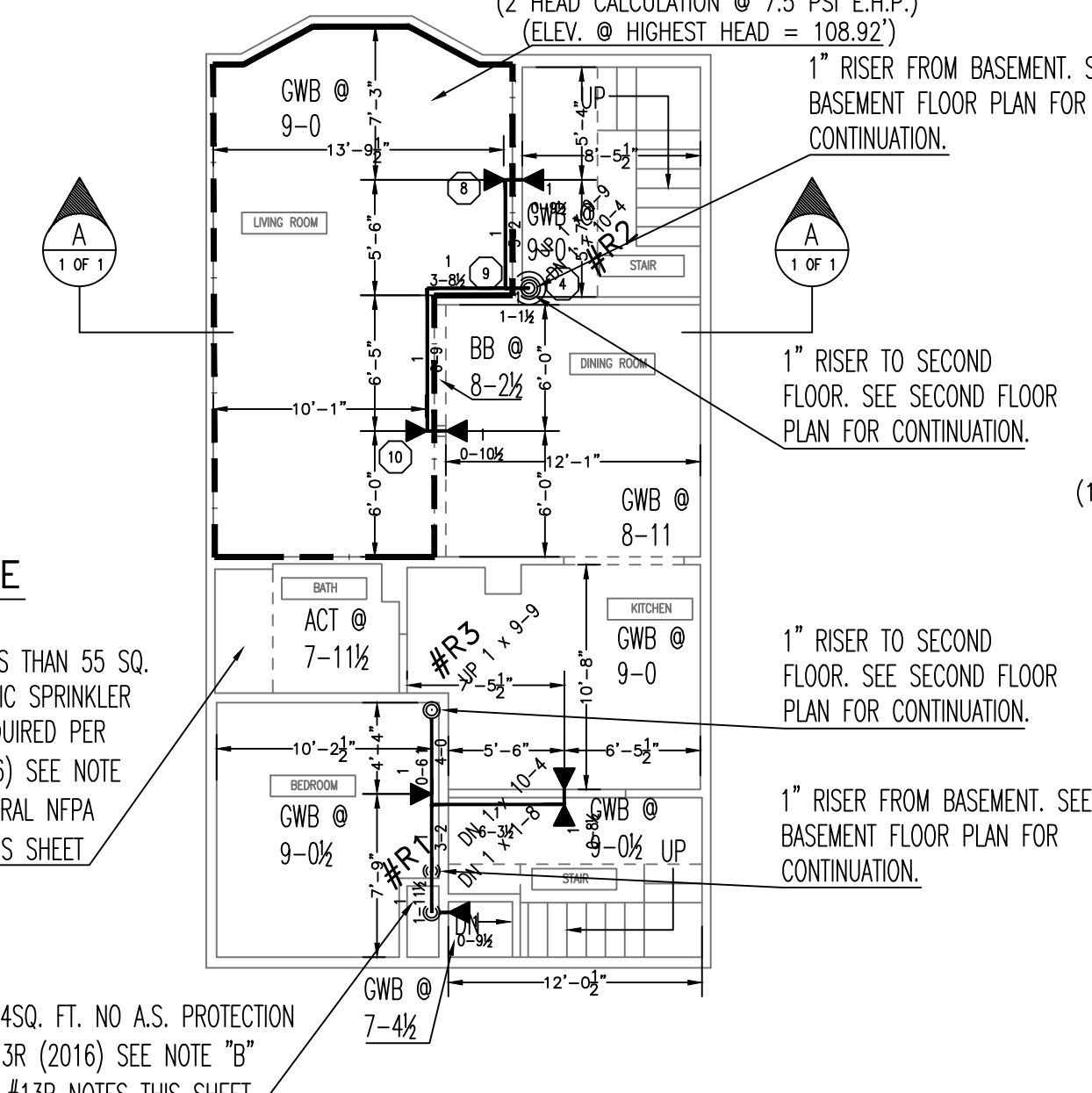
(3 HEAD CALCULATION @ .10 G.P.M./SQ.FT.)
(ELEV. @ HIGHEST HEAD = 108.92')

BATHROOMS LESS THAN 55 SQ. FT. NO AUTOMATIC SPRINKLER PROTECTION REQUIRED PER NFPA 13R (2016) SEE NOTE #A UNDER GENERAL NFPA #13R NOTES THIS SHEET

CLOSETS LESS THAN 24SQ. FT. NO A.S. PROTECTION REQUIRED PER NFPA 13R (2016) SEE NOTE "B" UNDER GENERAL NFPA #13R NOTES THIS SHEET

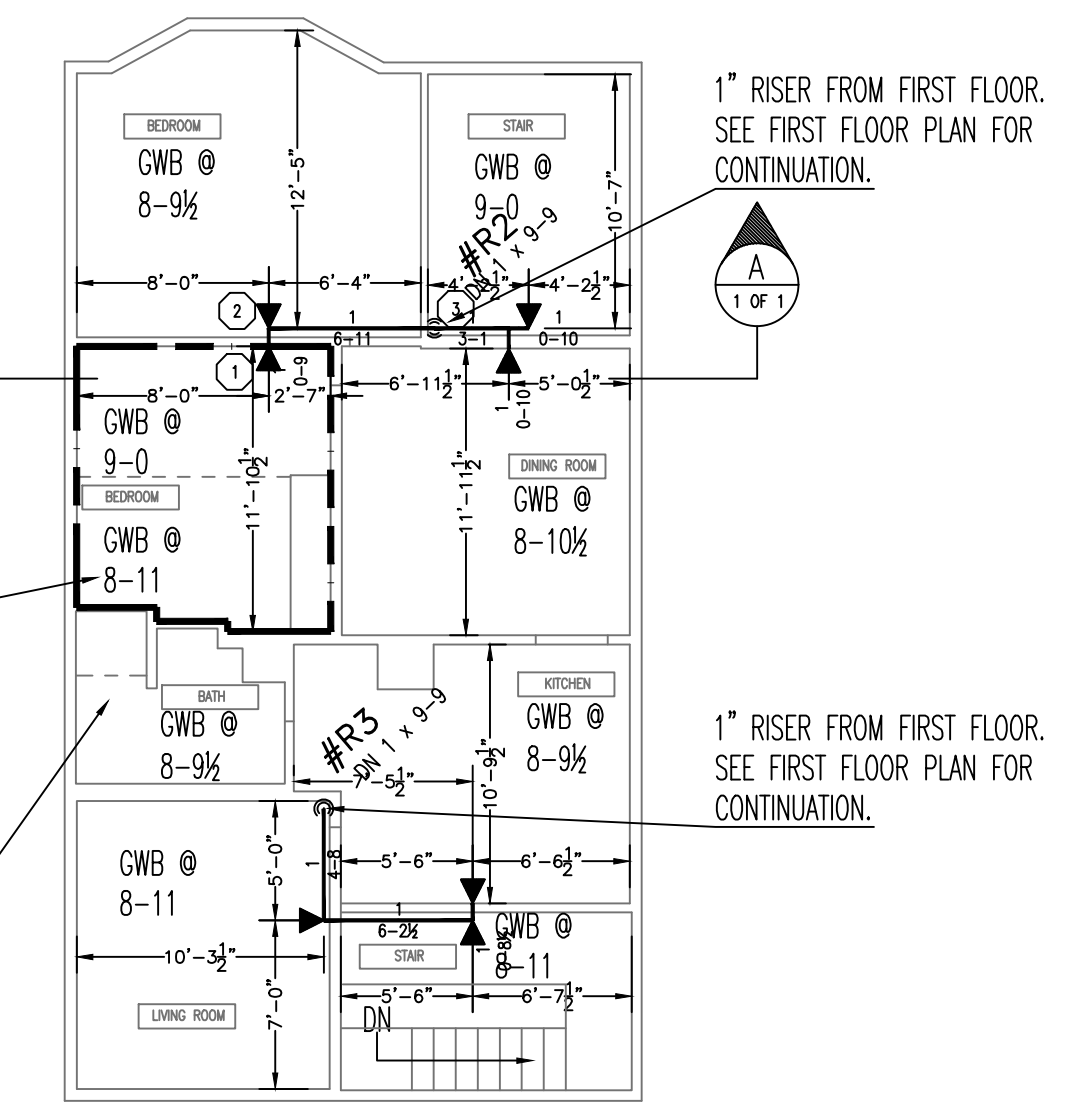
**(FIRST FLOOR)
HYDRAULICALLY MOST DEMANDING AREA**

(2 HEAD CALCULATION @ 7.5 PSI E.H.P.)
(ELEV. @ HIGHEST HEAD = 108.92')



**(SECOND FLOOR)
HYDRAULIC PROOF CALCULATION**

(1 HEAD CALCULATION @ 13.3 PSI E.H.P.)
(ELEV. @ HIGHEST HEAD = 119.13')



FIRE SPRINKLER PLAN - BASEMENT

SCALE: 1/8"=1'-0"
AREA PROTECTED: 1,225 SQ.FT.
FINISH FLOOR ELEVATION : 100.00' / 101.50'

Symbol	Count	Thread	K-Factor	Description	Note
○	3	1/2"	4.2	RELIABLE F1FR42 BRASS UPRIGHT 200' RA1423	
◀	5	1/2"	4.4	RELIABLE F1RES 44 WHITE HORIZONTAL SIDEWALL 175' RA3531	
◁	1	1"	8.0	RELIABLE F3RES44 DRY RECESSED HORIZONTAL SIDEWALL 4.4K 175' SIN#RA5231	

9 = Total Number of Heads This Floor

FIRE SPRINKLER PLAN - FIRST FLOOR

SCALE: 1/8"=1'-0"
AREA PROTECTED: 1,270 SQ.FT.
FINISH FLOOR ELEVATION 110.50'

Symbol	Count	Thread	K-Factor	Description	Note
◀	8	1/2"	4.4	RELIABLE F1RES 44 WHITE HORIZONTAL SIDEWALL 175' RA3531	

8 = Total Number of Heads This Floor

FIRE SPRINKLER PLAN - SECOND FLOOR

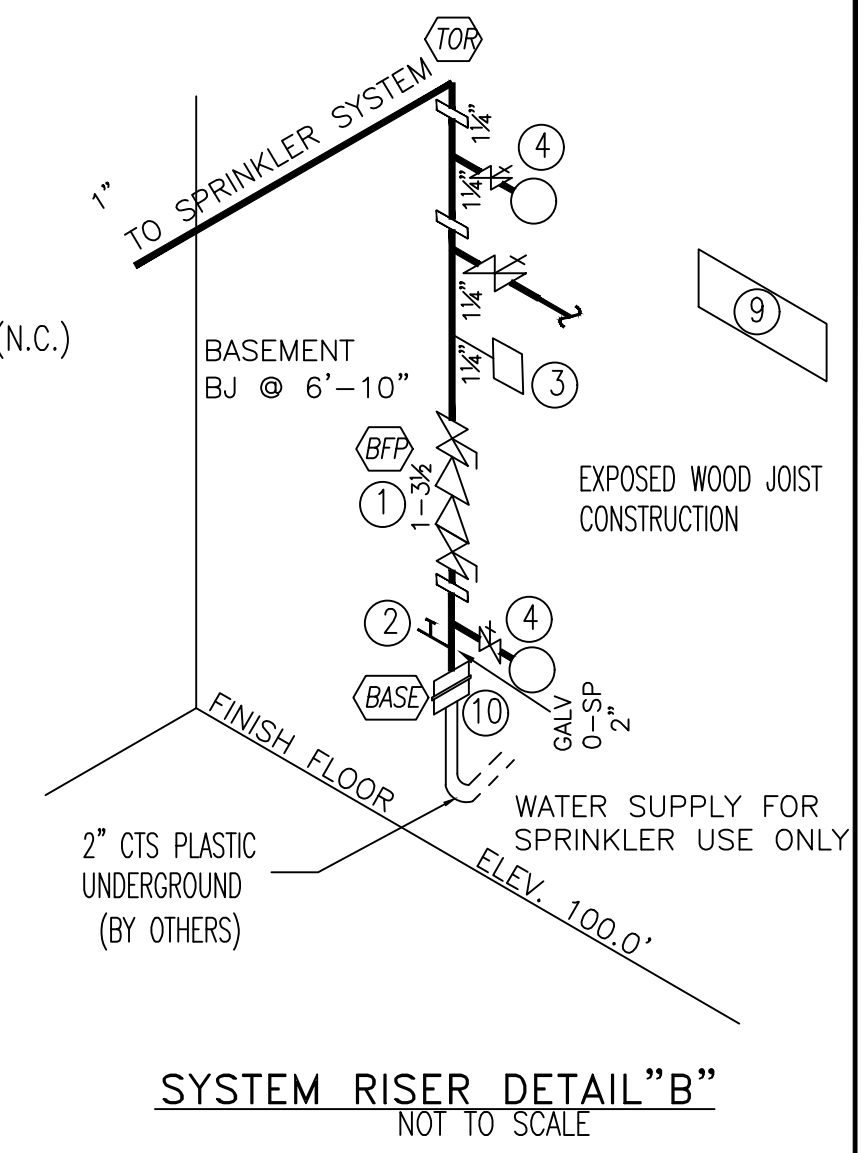
SCALE: 1/8"=1'-0"
AREA PROTECTED: 1,270 SQ.FT.
FINISH FLOOR ELEVATION 120.46'

Symbol	Count	Thread	K-Factor	Description	Note
◀	7	1/2"	4.4	RELIABLE F1RES 44 WHITE HORIZONTAL SIDEWALL 175' RA3531	

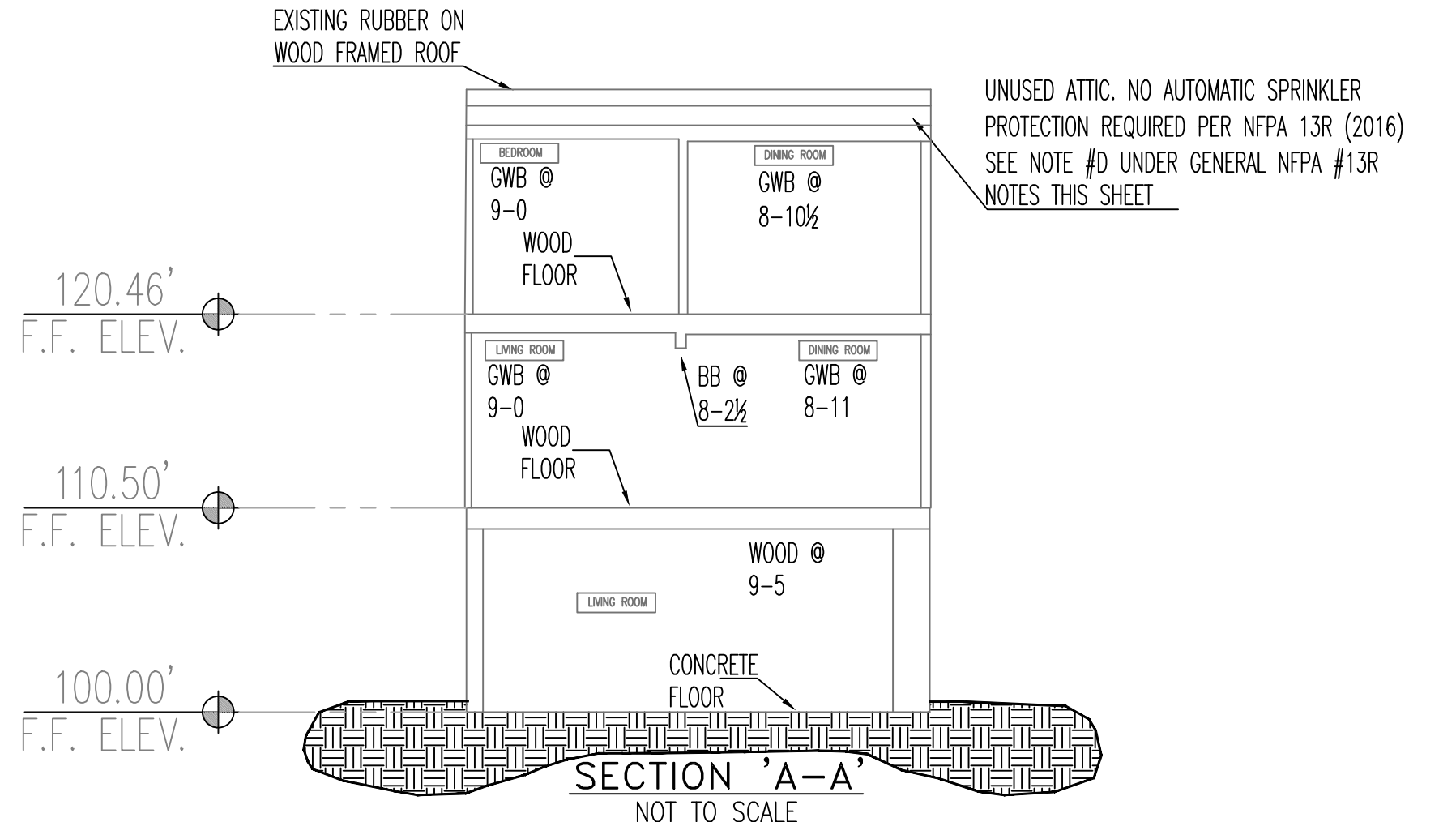
7 = Total Number of Heads This Floor

LEGEND

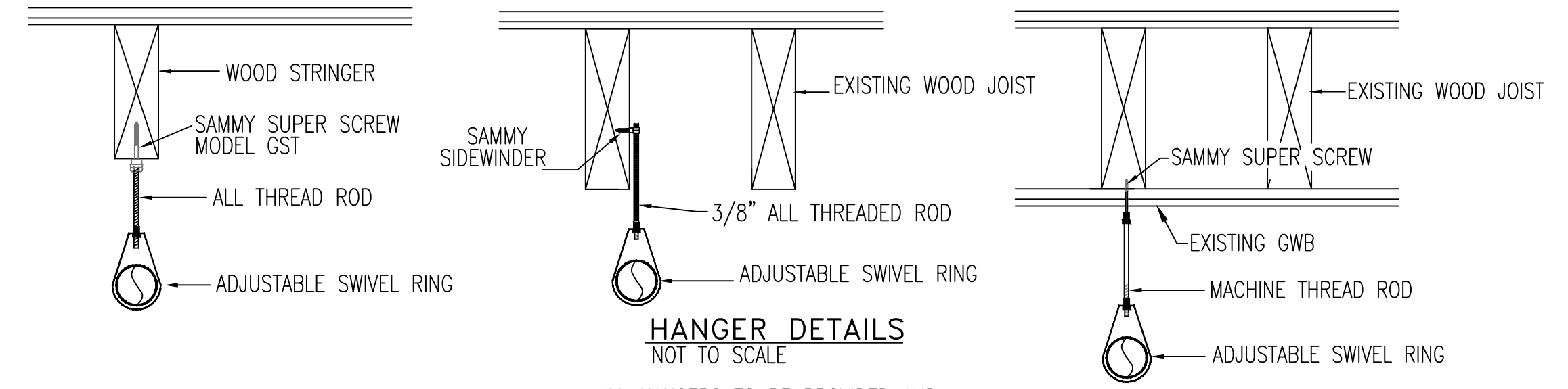
- 1 1/4" AMES MOD. 2000B BACKFLOW PREVENTER W/ 1 1/4" BALL VALVES W/CHAIN & LOCK (N.O.)
- 1" MAIN DRAIN OUTLET (SEE BASEMENT FLOOR PLAN)
- 1 1/4" VICTAULIC 247M RISER MODULE
A) 1 1/4" SYSTEM SENSOR FLOW SWITCH
B) 1" TEST DRAIN, MAIN DRAIN, AND FORWARD FLOOR TEST VALVE (N.C.)
C) WATER PRESSURE GAUGE
- WATER PRESSURE GAUGE W/ 1/4" THREE-WAY VALVE.
- 1/2" AUTOMATIC BALL DRIP
- 1 1/4" SWING CHECK VALVE. (SEE BASEMENT FLOOR PLAN)
- 2 1/2" SINGLE FIRE DEPARTMENT CONNECTION W/ PLATE & CAP (SEE BASEMENT FLOOR PLAN)
- ELECTRIC BELL. (SEE BASEMENT FLOOR PLAN)
- SPARE HEAD BOX WITH WRENCH & 3 SPARE SPRINKLERS OF EACH TYPE.
- 2" FORD FITTING



SYSTEM RISER DETAIL "B"
NOT TO SCALE



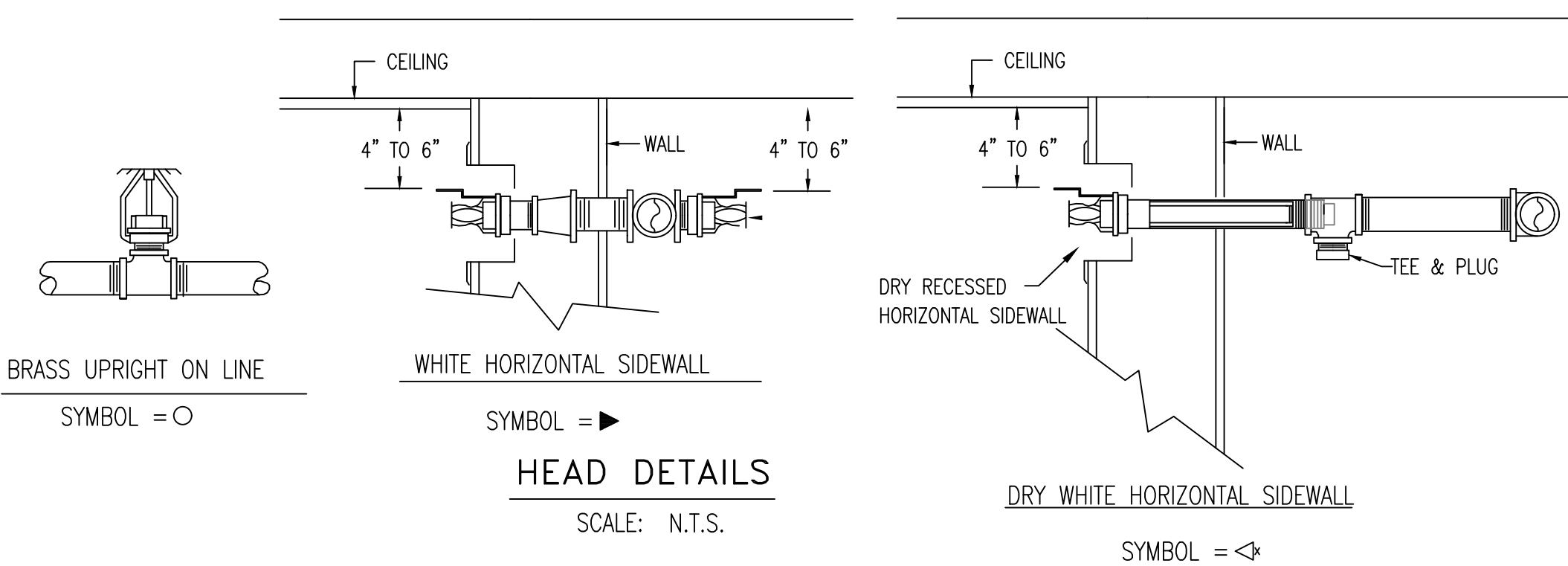
SECTION 'A-A'
NOT TO SCALE



HANGER DETAILS

NOT TO SCALE

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



HEAD DETAILS

SCALE: N.T.S.

GENERAL NOTES

ALL DIMENSIONS ARE SHOWN FOR GENERAL LOCATION OF SPRINKLER HEADS; PIPING MAY VARY TO SUIT ACTUAL FIELD CONDITIONS.

OCCUPANCY DESCRIPTION AND CLASSIFICATION:
RESIDENTIAL - LIGHT HAZARD
BASEMENT - LIGHT HAZARD

ALL WIRING TO BE DONE BY OTHERS
ALL PAINTING TO BE DONE BY OTHERS

N.O. = NORMALLY OPEN
N.C. = NORMALLY CLOSED

---◻--- INDICATES <15 SQ.FT. SHADOW AREA NOT REQUIRING A.S. PROTECTION

○ = INDICATES HYDRAULIC REFERENCE POINTS.

FF @ 1'-0" INDICATES FINISH FLOOR UP TO CENTERLINE OF PIPE.

DD @ 1'-0" INDICATES DECK DOWN TO CENTERLINE OF PIPE.

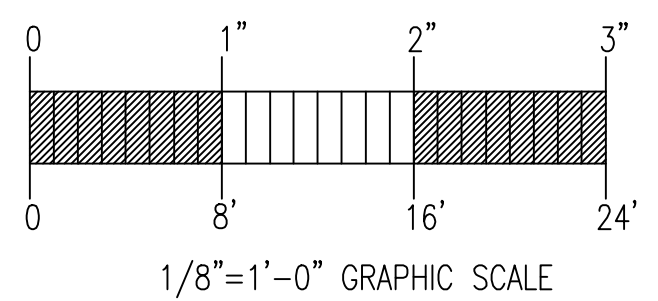
A.S. = AUTOMATIC SPRINKLER
BOD = BOTTOM OF DECK
BOJ = BOTTOM OF JOIST
BOB = BOTTOM OF BEAM

RELIABLE F1Res 44 HSW

RES 44HSW RESIDENTIAL HORIZONTAL SIDEWALL SPRINKLER DESIGN REQUIREMENTS

MODEL	COVERAGE AREA		MINIMUM DESIGN FLOW AND RESIDUAL PRESSURE	
	WIDTH x LENGTH FT. x FT.	MAXIMUM SPACING FT. (M)	155°F/68°C 175°F/79°C	155°F/68°C 175°F/79°C
F1 RES 44 HORIZONTAL SIDEWALL	12 x 12	12'	12GPM(7.5psi)	14GPM(10.2psi)
	14 x 14	14'	14GPM(10.2psi)	16GPM(13.3psi)
	16 x 16	16'	16GPM(13.3psi)	17GPM(15.0psi)
	16 x 18	16'	18GPM(16.8psi)	20GPM(20.7psi)
	18 x 18	16'	19GPM(18.7psi)	N/A
	16 x 20	16'	23GPM(27.4psi)	23GPM(27.4psi)

FOR HORIZONTAL CEILING (MAXIMUM 8 INCH RISE FOR 12 INCH RUN)
K-FACTOR = 4.4 ; 1/2" N.P.T. SIN#R3531
MAXIMUM HEAD SPACING 8'-0" FROM SIDE WALL; 16'-0" BETWEEN HEADS
MAXIMUM THROW 16'-0" MINIMUM SPACING 8'-0" BETWEEN HEADS



1/8"=1'-0" GRAPHIC SCALE

GENERAL NFPA #13R NOTES

SPRINKLER SYSTEM INSTALLATION TO COMPLY WITH NFPA PAMPHLET # 13R 2016

ALL PIPING (1"-2") TO BE BLACK SCHEDULE 40 JOINED BY THREADED DUCTILE IRON FITTINGS

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

- SPRINKLERS ARE NOT REQUIRED IN THE FOLLOWING AREAS AS PER NFPA 13R, 2016 EDITION.
 - A. BATHROOMS NOT EXCEEDING 55 SQ. FT.
 - B. SMALL CLOSETS WITHIN THE DWELLING UNIT LESS THAN 24 SQ. FT. IN AREA W/THE LEAST DIMENSION NOT EXCEEDING 3'0"
 - C. OPEN ATTACHED PORCHES, BALCONIES, CORRIDORS AND STAIRS
 - D. CRAWL SPACES, ATTICS, PENTHOUSE EQUIPMENT & ELEVATOR MACHINE ROOMS, FLOOR/CEILING SPACES AND ELEVATOR SHAFTS AND OTHER CONCEALED SPACES THAT ARE NOT INTENDED FOR LIVING PURPOSES AND DO NOT CONTAIN FUEL-FIRED EQUIPMENT.
 - E. CLOSETS ON EXTERIOR BALCONIES W/NO DIRECT ACCESS FROM THE DWELLING UNIT.

DATE	REVISIONS	REQUIRED APPROVALS	55 SALEM STREET PORTLAND, MAINE	FIRE SPRINKLER PLANS & DETAILS
		OWNER STATE FIRE MARSHAL FARMINGTON FIRE DEPARTMENT		
		DRAWN BY JML NICET LEVEL CERT.#	CONTRACT WITH: OWNER	JOB NUMBER 1-05750-SP-18
		CHECKED BY GRD NICET LEVEL III CERT.# 090388	<p>EASTERN FIRE PROTECTION AUBURN/LEWISTON INDUSTRIAL AIRPARK, AUBURN, MAINE 04210</p>	SCALE AS NOTED
		CONTRACTOR LICENSE # 101 CONTRACTOR RMS # 291		DATE 01/22/2018