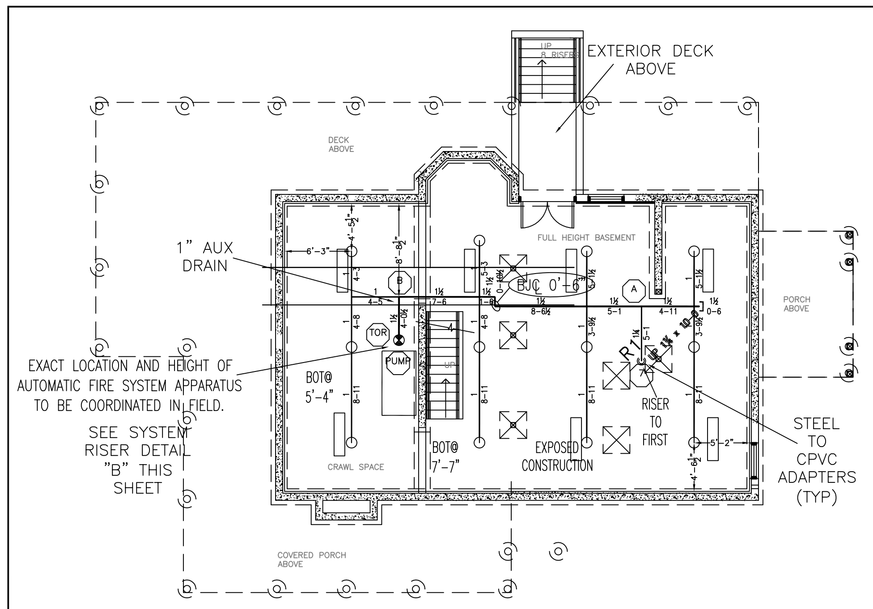
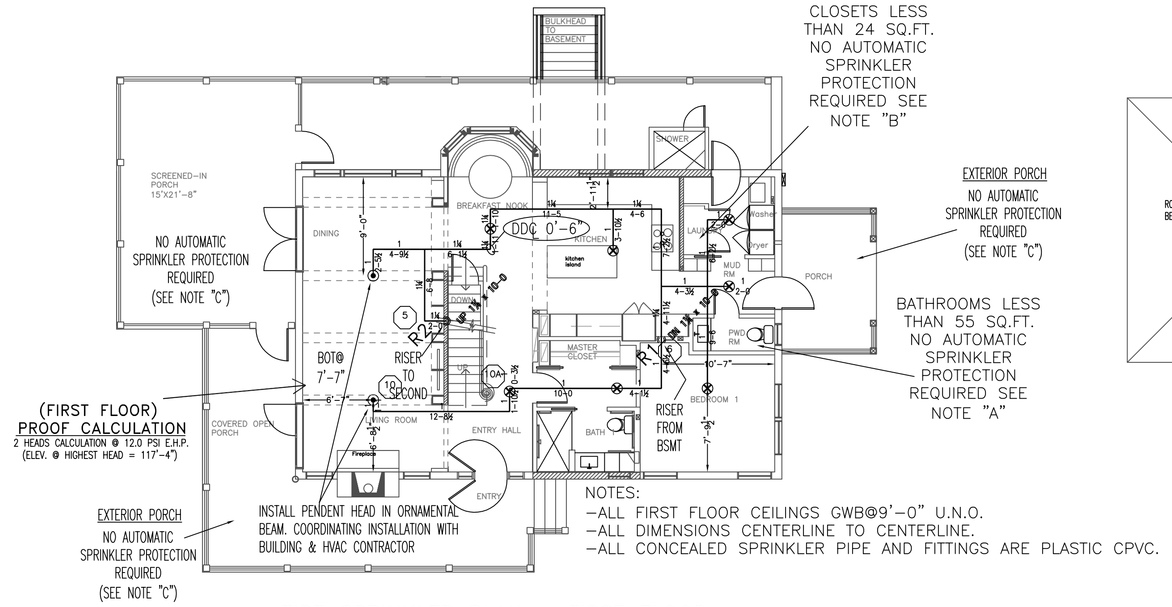


FIRE SPRINKLER PLAN – BASEMENT

SCALE: 1/8"=1'-0"
AREA PROTECTED: 1,185 SQ.FT.
FINISH FLOOR ELEVATION : 100'-0"
COLOR CODE: WHITE

Sprinkler Head Schedule					
Symbol	Count	Thread	K-Factor	Description	Note
○	12	1/2"	5.6	TYCO TY-FRB BRASS UPRIGHT SIN#313	on Line
12 = Total Number of Heads this floor					



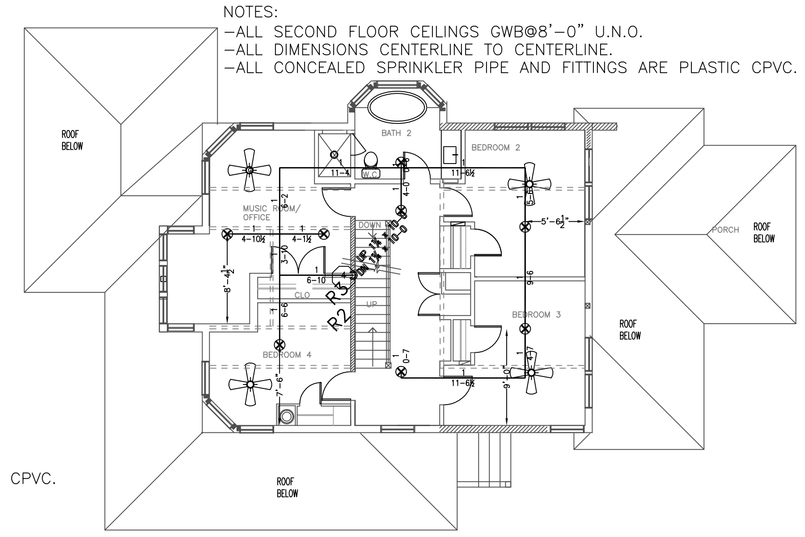
NOTES:
–ALL FIRST FLOOR CEILINGS GWB@9'–0" U.N.O.
–ALL DIMENSIONS CENTERLINE TO CENTERLINE.
–ALL CONCEALED SPRINKLER PIPE AND FITTINGS ARE PLASTIC CPVC.

FIRE SPRINKLER PLAN – FIRST FLOOR

SCALE: 1/8"=1'-0"
AREA PROTECTED: 1,185 SQ.FT.
FINISH FLOOR ELEVATION : 108'-4"
COLOR CODE: WHITE

Sprinkler Head Schedule					
Symbol	Count	Thread	K-Factor	Description	Note
⊙	2	1/2"	4.9	TYCO RF II BRASS CONCEALED PENDENTS SIN#3531	on Drop
⊗	7	1/2"	4.9	TYCO RF II WHITE CONCEALED PENDENTS SIN#3531	on Drop
9 = Total Number of Heads this floor					

NOTES:
–ALL SECOND FLOOR CEILINGS GWB@8'–0" U.N.O.
–ALL DIMENSIONS CENTERLINE TO CENTERLINE.
–ALL CONCEALED SPRINKLER PIPE AND FITTINGS ARE PLASTIC CPVC.



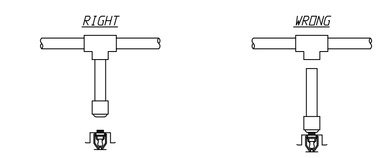
FIRE SPRINKLER PLAN – SECOND FLOOR

SCALE: 1/8"=1'-0"
AREA PROTECTED: 1,012 SQ.FT.
FINISH FLOOR ELEVATION : 118'-4"
COLOR CODE: WHITE

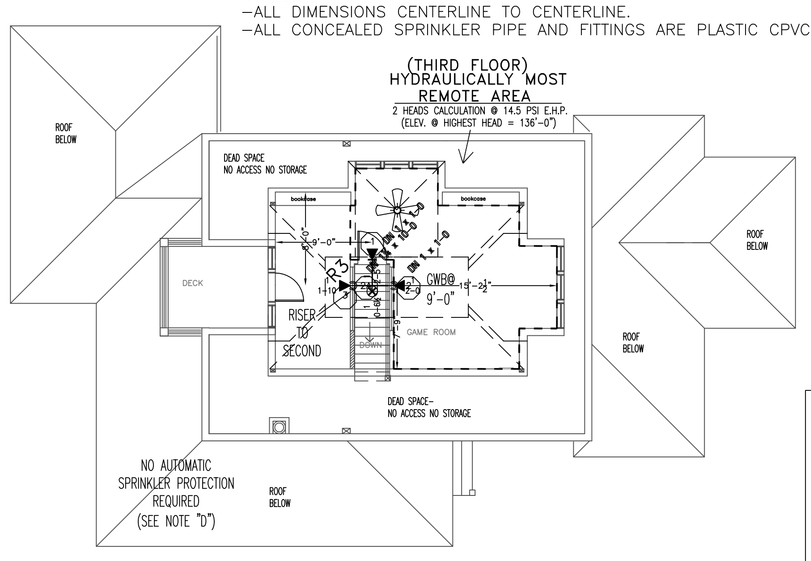
Sprinkler Head Schedule					
Symbol	Count	Thread	K-Factor	Description	Note
⊗	8	1/2"	5.6	TYCO RF II WHITE CONCEALED PENDENTS SIN#3531	on Drop
8 = Total Number of Heads this floor					

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 40°F, however, the sprinkler system temperature must be raised to a temperature of 40°F or above and allowed to cure per the above recommendations prior to pressure testing.



NOTES:
–ALL DIMENSIONS CENTERLINE TO CENTERLINE.
–ALL CONCEALED SPRINKLER PIPE AND FITTINGS ARE PLASTIC CPVC.



FIRE SPRINKLER PLAN – THIRD FLOOR

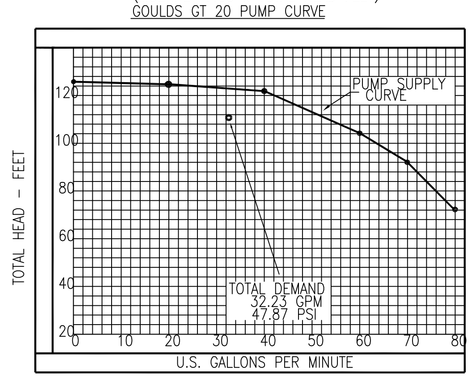
SCALE: 1/8"=1'-0"
AREA PROTECTED: 409 SQ.FT.
FINISH FLOOR ELEVATION : 127'-4"
COLOR CODE: WHITE

Sprinkler Head Schedule					
Symbol	Count	Thread	K-Factor	Description	Note
◀	3	1/2"	4.2	RELIABLE RFS42 WHITE CONCEALED HORIZONTAL SIDEWALL SIN# RA4835	on Line
3 = Total Number of Heads this floor					

HYDRAULIC–SYSTEM	
THIS BUILDING IS PROTECTED BY A HYDRAULICALLY DESIGNED AUTOMATIC SPRINKLER SYSTEM.	
LOCATION:	THIS FLOOR GAME ROOM
NFPA # 13D	
BASIS OF DESIGN:	
1. GPM PER HEAD	16
2. NUMBER OF HEADS CALCULATED	2
SYSTEM DEMAND:	
1. WATER FLOW RATE (GPM)	32.23
2. RESIDUAL PRESSURE AT THE PUMP	46.26 (PSI)
(SAFETY = 7.17 PSI)	

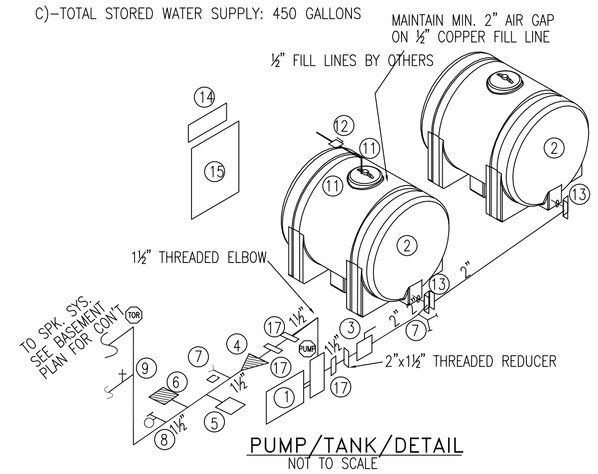
HYDRAULIC DATA NAMEPLATE
TO BE MOUNTED AT SYSTEM RISER
⬡ = HYDRAULIC REFERENCE POINT

TO CONVERT TOTAL HEAD–FEET INTO P.S.I.
(MULTIPLY .433 x TOTAL HEAD FEET)
GOULDS GT 20 PUMP CURVE



0 GPM = 54.99 PSI 30 GPM = 53.69PSI 70 GPM = 38.87 PSI
10 GPM = 54.56 PSI 40 GPM = 52.39 PSI 80 GPM = 32.04 PSI
20 GPM = 54.13 PSI 60 GPM = 45.03 PSI

NOTE
A)–ALL ELECTRICAL WIRING, PAINTING, AND INSULATING TO BE DONE BY OTHERS
B)–SYSTEM TANK SIZE EQUALS GPM DEMAND (34.3) FOR TWO HEADS TIMES TEN MINUTES = 343 GALLONS
C)–TOTAL STORED WATER SUPPLY: 450 GALLONS



PUMP/TANK/DETAIL

NOT TO SCALE

LEGEND FOR NFPA 13D SPRINKLER SYSTEM

1. GOULDS GT–20, 2 H.P., 30 GPM @ 53.69 PSI PUMP 230/1/60
2. (2) 225 GALLON PLASTIC WATER STORAGE TANK (38" x 52")(ACTUAL CAPACITY 225GAL/TANK)
3. 2" BALL VALVE (NORMALLY CHAINED & LOCKED OPEN)
4. 1¼" SWING CHECK VALVE
5. 30–50 PUMP CONTROL SWITCH (230 VOLTS)
6. 1¼" IPT POTTER VSR–SF FLOW SWITCH
7. BOILER DRAIN VALVE (AUX. DRAIN)
8. 300# PRESSURE GAUGE W/ ¼" 3–WAY GLOBE VALVE
9. 1" MAIN DRAIN & ALARM TEST VALVE
10. NOT USED
11. 1¼" VENT CAP
12. ½" COPPER BALL VALVE FOR TANK FILL LINE (NORMALLY CLOSED) (BY OTHERS)
13. 2" GROOVED COUPLING
14. SPARE HEAD BOX
15. NFPA 13D PUMP CONTROL PANEL
16. NOT USED
17. 1½" GROOVED COUPLING

ALL WIRING DONE BY OTHERS

USE FPPI PIPE JOINT COMPOUND OR TEFLON TAPE ON ALL STEEL OR BRASS PIPE THREADS.

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

NOT TO SCALE

TYCO LF II

LF II RESIDENTIAL CONCEALED PENDENT SPRINKLER DESIGN REQUIREMENTS

MODEL	COVERAGE AREA		MINIMUM DESIGN REQUIREMENTS
	MAX. SPACE BETWEEN SPRINKLERS	MAXIMUM LOCATION FROM WALL	MINIMUM FLOW & PRESSURE FOR HORIZONTAL CEILING
			155°F/68°C OR 175°F/79°C
LF II RECESSED PENDENT	12 x 12	6'(OR LESS)	13GPM(7.0psi)
	14 x 14	7'	13GPM(7.0psi)
	16 x 16	8'	13GPM(7.0psi)
	18 x 18	9'	17GPM(12.0psi)
	20 x 20	10'	20GPM(16.7psi)

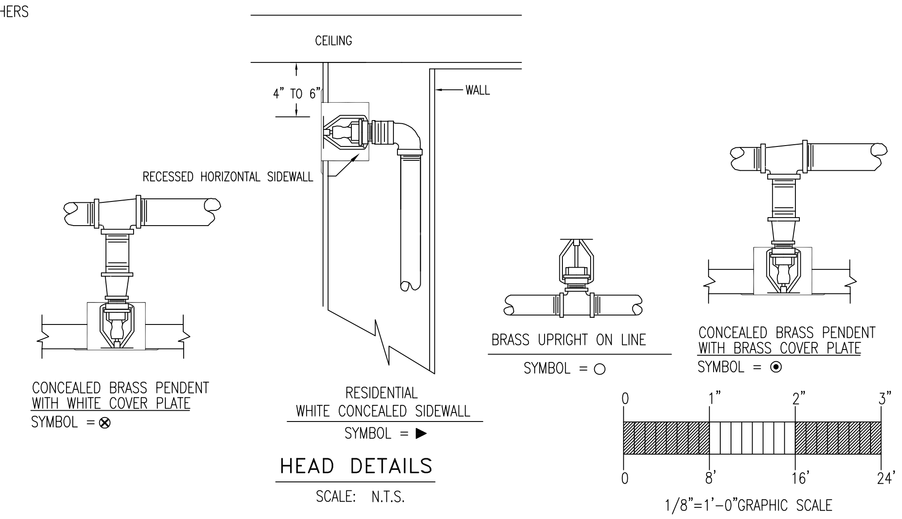
K–FACTOR = 4.9 , ½" N.P.T.
MAXIMUM HEAD SPACING 9'–0" FROM ANY WALL; 18'–0" BETWEEN HEADS.
MINIMUM SPACING 8'–0" BETWEEN HEADS

RELIABLE RFS42

RESIDENTIAL HORIZONTAL CONCEALED SIDEWALL SPRINKLER DESIGN REQUIREMENTS

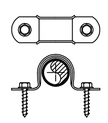
MODEL	COVERAGE AREA		DESIGN FLOW AND PRESSURE	
	WIDTH x LENGTH FT. x FT.	DEFLECTOR TO CEILING	FLOW AND PRESSURE DESIGN REQUIREMENTS	
RFS42 HORIZONTAL SIDEWALL	12 x 12	4"–6"	12GPM(8.2psi)	165°F(74°C)
	12 x 12	6"–12"	13GPM(9.6psi)	165°F(74°C)
	14 x 14	4"–6"	12GPM(8.2psi)	165°F(74°C)
	14 x 14	6"–12"	14GPM(11.1psi)	165°F(74°C)
	16 x 16	4"–12"	16GPM(14.5psi)	165°F(74°C)
	16 x 18	4"–12"	18GPM(18.4psi)	165°F(74°C)
	16 x 20	4"–6"	22GPM(27.4psi)	165°F(74°C)
	16 x 20	6"–12"	23GPM(30.0psi)	165°F(74°C)

FOR HORIZONTAL CEILING (MAXIMUM 8 INCH RISE FOR 12 INCH RUN)
K–FACTOR = 4.2 , ½" N.P.T.
MAXIMUM DISTANCE FROM SIDEWALL 8'–0"
MAXIMUM THROW 16'–0"
MINIMUM SPACING BETWEEN HEADS 8'–0"

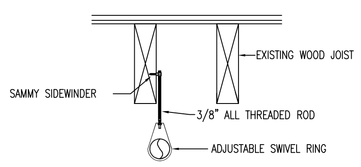


HEAD DETAILS

SCALE: N.T.S.



CPVC DOUBLE FASTENER STRAP TYPE HANGER



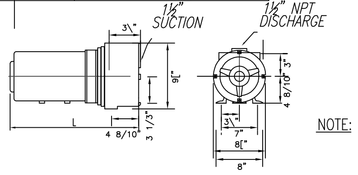
HANGER # 18

DIMENSIONS AND MOTOR DATA

MODEL NO.	GT07	GT10	GT15	GT20	GT30	GT073	GT103	GT153	GT203	GT303
HP	¾	1	1½	2	3	¾	1	1½	2	3
LENGTH "L"	19 3/16	19 1/8	21 2/16	20 2/16	21 11/16	19	19 ¾	20 1/16	20 11/16	21 3/16
WIDTH	8¼									
HEIGHT	9¼									
WT. (lbs.)	48	52	60	65	76	49	52	55	69	71
PHASE	SINGLE				THREE					

MOTOR DATA

60 HERTZ SINGLE PHASE 115/230 VOLT		
PUMP MODEL NO.	HORSE POWER	R.P.M.
GT20	¾ – 2	3500

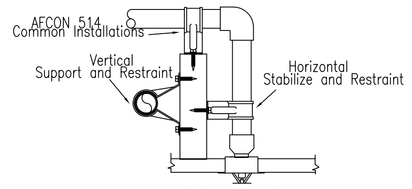


HANGER DETAILS

NOT TO SCALE

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

NOTE: BEAM CLAMP TO BE ATTACHED TO ANGLE OF STEEL JOIST AND/OR BEAM FLANGES



CPVC NO – BLOCK STRAP TYPE HANGER

GENERAL NFPA #13D NOTES

SPRINKLER SYSTEM DESIGN & INSTALLATION TO COMPLY WITH NFPA PAMPHLET # 13D–2007
ALL WIRING TO BE DONE BY OTHERS.
ALL CONCEALED PIPING TO BE CPVC PLASTIC PIPE JOINED WITH PLASTIC GLUED FITTINGS (C=150).
ALL EXPOSED PIPING TO BE BLACK SCH. 40 STEEL PIPE JOINED WITH DUCTILE IRON SCREWED FITTINGS (C=120)

OWNER TO PROVIDE SUFFICIENT HEAT THRU–OUT RESIDENCE TO PREVENT FREEZING OF WATER FILLED SPRINKLER PIPING AND EQUIPMENT.

1. SPRINKLERS ARE NOT REQUIRED IN THE FOLLOWING AREAS
   A. BATHROOMS NOT EXCEEDING 55 SQ. FT. WITH NON–COMBUSTIBLE CONSTRUCTION & FIXTURES
   B. SMALL CLOSETS LESS THAN 24 SQ. FT. IN AREA WITH THE LEAST DIMENSION NOT EXCEEDING 3'0"
   C. OPEN ATTACHED PORCHES, GARAGES AND SIMILAR STRUCTURES.
   D. CRAWL SPACES, ATTICS AND OTHER CONCEALED SPACES NOT USED OR INTENDED FOR LIVING PURPOSES
   E. COVERED UNHEATED PROJECTIONS AT ENTRANCES/EXITS IF NOT THE ONLY MEANS OF EGRESS

DATE	REVISIONS

REQUIRED APPROVALS
OWNER / ARCHITECT
STATE FIRE MARSHAL
PORTLAND FIRE DEPARTMENT

DRAWN BY DLC
NICET LEVEL CERT.#
CHECKED BY WAF
NICET LEVEL III CERT.# 095574
CONTRACTOR LICENSE # 101
CONTRACTOR RMS # 368

BUNTON RESIDENCE
PEAKS ISLAND

CONTRACT WITH: OWNER

EASTERN FIRE PROTECTION
AUBURN/LEWISTON INDUSTRIAL AIRPARK, AUBURN, MAINE 04210

FIRE SPRINKLER PLANS & DETAILS
DWG. NO. 1 OF 1
JOB NUMBER AU–5224–14
SCALE AS NOTED
DATE 11/18/14