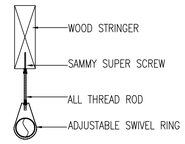
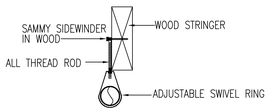
LENGTH OF FLEXIBLE HOSE	OUTLET SIZE	EQ. LENGTH‡ OF 1" SCH'D 40 PIPE WHERE C=120	MAXIMUM NUMBER OF BENDS
INCHES	INCHES	FEET	
48"	½" STRAIGHT	78'	4
	½" 90 ELL	78'	
60"	½" STRAIGHT	112.2'	4
	½" 90 ELL	108.4'	

FRICTION LOSS DATA FOR VIC FLEX HOSE PER UL LISTING

SERIES AH1 BRAIDED FLEXIBLE DROP



TYPICAL SAMMY SUPER SCREW HANGER IN WOOD

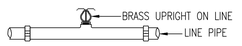


TYPICAL SAMMY SIDEWINDER HANGER IN WOOD

HANGER DETAILS

N.T.S

ALL HANGERS AND HANGER COMPONENTS TO BE INSTALLED AND COMPLY WITH NFPA # 13 GENERAL SPRINKLER SYSTEM DATA

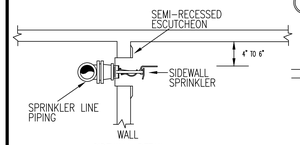


BRASS UPRIGHT ON LINE
SYMBOL = ○

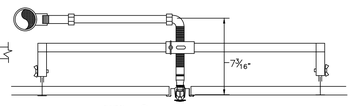
VICTAULIC MODEL "V2730"

HEAD CHART FOR VICTAULIC MODEL "V2730" RESIDENTIAL PENDENT K-FACTOR=4.9 SIN # V2730

MAXIMUM COVERAGE AREA FT. x FT.	MAXIMUM SPACING FT.	MINIMUM FLOW AND RESIDUAL PRESSURE FOR HORIZONTAL CEILING (MAX. 2" RISE FOR 12" RUN)
		155°F/68°C OR 175°F/79°C
12 x 12	12	13 GPM 7.0 PSI
14 x 14	14	13 GPM 7.0 PSI
16 x 16	16	13 GPM 7.0 PSI
18 x 18	18	17 GPM 12.0 PSI
20 x 20	20	20 GPM 16.7 PSI

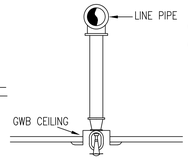


SIDEWALL DETAIL
SYMBOL = ◁



FLEXIBLE DROP ASSEMBLY W/ 90° TALL REDUCING ELBOW

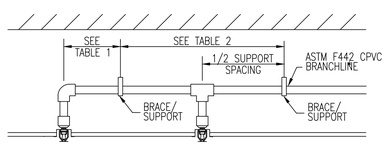
RECESSED WHITE PENDENT ON FLEX CONNECTOR



RECESSED PENDENT DETAIL
SYMBOL = ◐

SPRINKLER HEAD DETAILS

NOT TO SCALE



CPVC PIPE INSTALLATION DETAIL

NOT TO SCALE

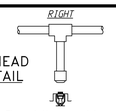
CURE TIMES WITH ONE STEP SOLVENT CEMENT
200 psi (MAXIMUM) TEST PRESSURE

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.

CPVC SPRINKLER HEAD INSTALLATION DETAIL

NOT TO SCALE



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

TABLE 1
MAXIMUM SUPPORT SPACING DISTANCE
END LINE SPRINKLER HEAD DROP ELBOW

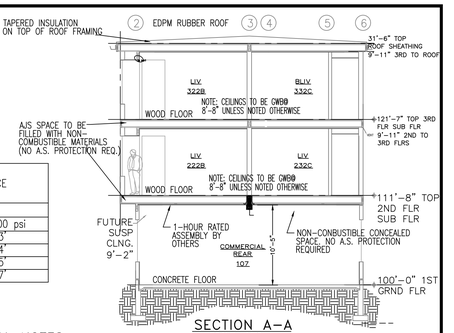
PIPE SIZE	SYSTEM PRESSURE	
	< 100 psi	> 100 psi
3/4"	9"	6"
1"	12"	9"
1 1/4"	16"	12"
1 1/2" – 3"	24"	12"

TABLE 2
MAXIMUM SUPPORT SPACING DISTANCE
INLINE SPRINKLER HEAD DROP TEE

PIPE SIZE	SYSTEM PRESSURE	
	< 100 psi	> 100 psi
3/4"	4"	3"
1"	5"	4"
1 1/4"	6"	5"
1 1/2" – 3"	7"	7"

CPVC HANGER INSTALLATION DETAIL

NOT TO SCALE

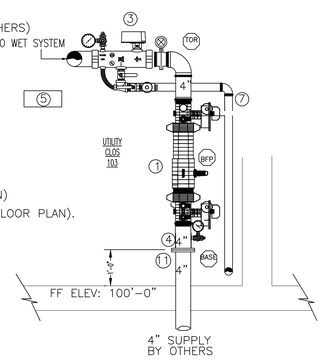


SECTION A–A

SCALE: NTS

RISER "R" LEGEND

1. 4" AMES MODEL C200 DOUBLE CHECK BACKFLOW PREVENTER WITH TAMPERED BUTTERFLY VALVES(WIRED TO FA CONTROL PANEL BY OTHERS)
2. 4" BUTTERFLY VALVE WITH TAMPER SWITCH VICTAULIC SERIES 705 (FORWARD BACKFLOW TEST VALVE).
3. 4" VICTAULIC MODEL 747M RISER MODULE WITH FLOW SWITCH DRAIN VALVE AND WATER PRESSURE GAUGE & RELIEF VALVE.
4. 4" SPOOL PIECE F X G WITH 4" X 9" FLANGE.
5. 6 COUNT SPARE HEAD BOX WITH WRENCH.
6. ½" AUTOMATIC BALL DRIP (SEE FIRST FLOOR PLAN).
7. 2" TO MAIN DRAIN EXTERIOR (SEE FIRST FLOOR PLAN).
8. NOT USED.
9. 4" GROOVED CHECK VALVE VICTAULIC SERIES 717(SEE FIRST FLOOR PLAN)
10. 4x2½x2½ FIRE DEPT. CONN. FIRE DEPARTMENT CONNECTION (SEE FIRST FLOOR PLAN).
11. 4" UNI-FLANG (BY OTHERS).



RISER DETAIL "R"

N.T.S

GENERAL NOTES:

THE SPRINKLER SYSTEM INSTALLATION SHALL COMPLY WITH THE NFPA 13 (FIRST FLOOR)& 13R (SECOND & THIRD FLOORS) STANDARDS 2016 EDITION.

WET SYSTEM LINE PIPING (1") TO BE BLACK STEEL SCHEDULE 40 JOINED WITH THREADED CAST IRON FITTINGS.

WET SYSTEM MAIN PIPING (3"–4") TO BE BLACK SCHEDULE 10 PIPE WITH GROOVED ENDS JOINED BY MECHANICAL COUPLINGS

CONCEALED RESIDENTIAL SPRINKLER SYSTEM PIPING IS TO BE CPVC SPEARS PLASTIC PIPE. JOINED WITH CPVC PLASTIC FITTINGS AND CPVC CEMENT.

OWNER TO PROVIDE SUFFICIENT HEAT AT ALL TIMES WHERE WET SYSTEM PIPING AND COMPONENTS ARE INSTALLED AND IN THE SPRINKLER ROOM TO PROTECT WATER FILLED PIPE & SPRINKLER EQUIPMENT FROM FREEZING. (MIN. 40°F)

PERMITS

THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES ASSOCIATED WITH THE CITY OF PORTLAND.

SHOP DRAWINGS

A. SUBMIT SHOP DRAWINGS TO THE OWNER, STATE FIRE MARSHAL'S OFFICE, AND THE PORTLAND FIRE DEPARTMENT FOR APPROVAL.

TESTS

A. ACCEPTANCE AND HYDROSTATIC TESTS TO BE PERFORMED IN ACCORDANCE WITH SECTION 25.2.1 OF NFPA 13.

- - - - - - - INDICATES CONCEALED SPEARS CPVC SPRINKLER PIPE
——— INDICATES WET SYSTEM BLACK STEEL SPRINKLER PIPE
⬡ INDICATES HYDRAULIC REFERENCE POINT
A.S.= INDICATES AUTOMATIC SPRINKLER
(FFG 0'-0") INDICATES FINISHED FLOOR TO CENTERLINE OF SPRINKLER PIPE

SCOPE OF WORK

A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR REQUIRED TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.

B. THE WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH NFPA 13 & 13R (2016 EDITIONS), ALL CODES AND OTHER NFPA REGULATIONS GOVERNING WORK OF THIS NATURE.

C. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE AHJ.

D. ALL WIRING IS TO BE DONE BY OTHERS.

WORK BY OTHERS

A. THE OWNER IS RESPONSIBLE FOR THE NEW 4" WATER ENTRANCE INTO THE BUILDING FOR THE FIRE SPRINKLER SYSTEM. ALL NEW UNDERGROUND TO BE INSTALLED, FLUSHED, AND TESTED PER NFPA 24 (BY OTHERS)

B. BUILDING OF A ROOM SUFFICIENT ENOUGH IN SIZE TO ENCLOSE ALL NEW WET SPRINKLER SYSTEM APPARATUSES (BY OTHERS).

C. ALL WIRING IS TO BE DONE BY OTHERS.

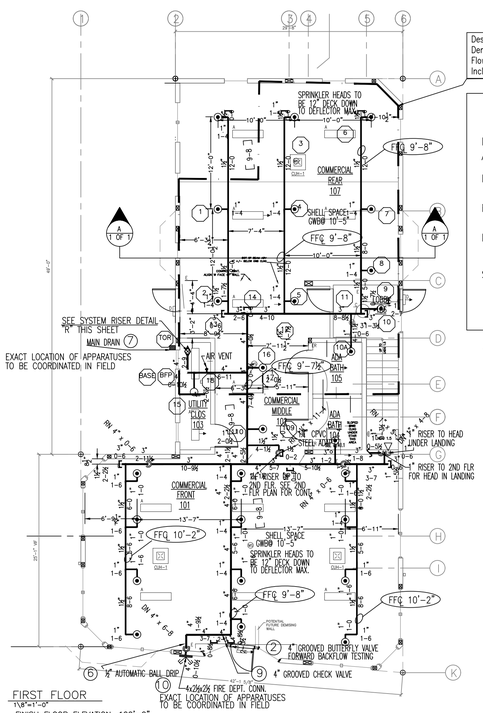
MISCELLANEOUS

A. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.

B. THE SPRINKLER PLANS ARE INTENDED TO BE DIAGRAMATIC. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION.

GUARANTEE

A. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR PERIOD OF ONE(1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD (DUE TO WORKMANSHIP) SHALL BE CORRECTED AT THE SPRINKLER CONTRACTOR'S EXPENSE.



FIRST FLOOR

1'\8"=1'-0"

FINISH FLOOR ELEVATION: 100'-0"

AREA PROTECTED ON FIRST FLOOR: 2,340' SQ. FT.

Sprinkler Head Schedule					
Symbol	Count	Thread	K-Factor	Description	Note
⊙	26	1/2"	5.6	V2708 1/2 QR 200 WHITE RECESSED PENDENT	on Flex Drop
○	1	1/2"	5.6	V2704 1/2 QR 200 BRASS UPRIGHT	on Line
◁	1	1/2"	5.6	V2710 1/2 QR 200 WHITE HSW	on Line
28 = Total Number of Heads This Floor					

HYDRAULIC–SYSTEM

THIS BUILDING IS PROTECTED BY A HYDRAULICALLY DESIGNED AUTOMATIC SPRINKLER SYSTEM

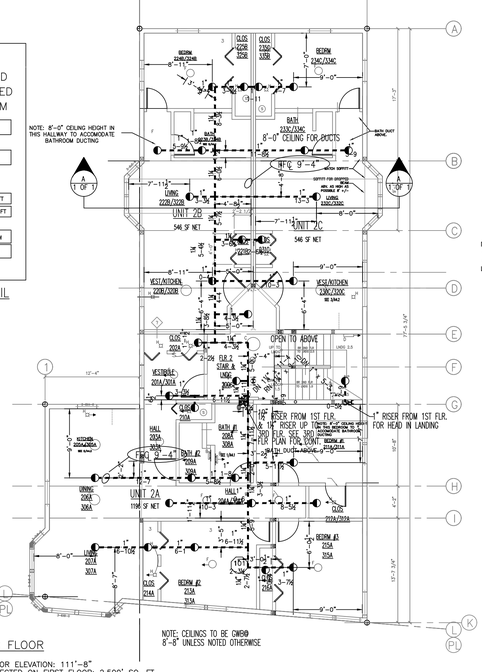
LOCATION: COMMERCIAL REAR

NO. OF SPRINKLERS: 12

BASIS OF DESIGN
1. DENSITY: .2 GPM SQ FT
2. DESIGNED AREA OF DISCHARGE: 1059 SQ FT

SYSTEM DEMAND
1. GPM DISCHARGE: 323.9 GPM
2. RESIDUAL PRESSURE AT THE BASE OF THE RISER: 51.9 PSI

HYDRAULIC NAMEPLATE DETAIL



SECOND FLOOR

FINISH FLOOR ELEVATION: 111'-8"

AREA PROTECTED ON FIRST FLOOR: 2,500' SQ. FT.

Sprinkler Head Schedule					
Symbol	Count	Thread	K-Factor	Description	Note
◐	32	1/2"	4.9	V2730 7/16 QR 155 WHITE RECESSED PENDENT	on Drop
32 = Total Number of Heads This Floor					

Design Area No. 2 – LIGHT HAZ
Density .05 Area 4 HEADS
Flow 69.1 gpm @ 53.7 psi
Includes N/A gpm Hose allowance

HYDRAULIC–SYSTEM

THIS BUILDING IS PROTECTED BY A HYDRAULICALLY DESIGNED AUTOMATIC SPRINKLER SYSTEM

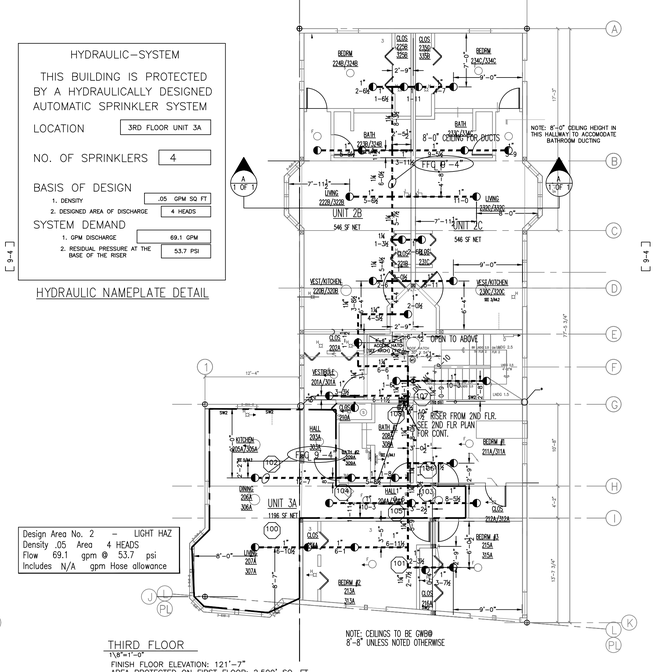
LOCATION: 3RD FLOOR UNIT 3A

NO. OF SPRINKLERS: 4

BASIS OF DESIGN
1. DENSITY: .05 GPM SQ FT
2. DESIGNED AREA OF DISCHARGE: 4 HEADS

SYSTEM DEMAND
1. GPM DISCHARGE: 69.1 GPM
2. RESIDUAL PRESSURE AT THE BASE OF THE RISER: 53.7 PSI

HYDRAULIC NAMEPLATE DETAIL



THIRD FLOOR

1'\8"=1'-0"

FINISH FLOOR ELEVATION: 121'-7"

AREA PROTECTED ON FIRST FLOOR: 2,500' SQ. FT.

Sprinkler Head Schedule					
Symbol	Count	Thread	K-Factor	Description	Note
◐	32	1/2"	4.9	V2730 7/16 QR 155 WHITE RECESSED PENDENT	on Drop
32 = Total Number of Heads This Floor					

GENERAL SPRINKLER SYSTEM DATA

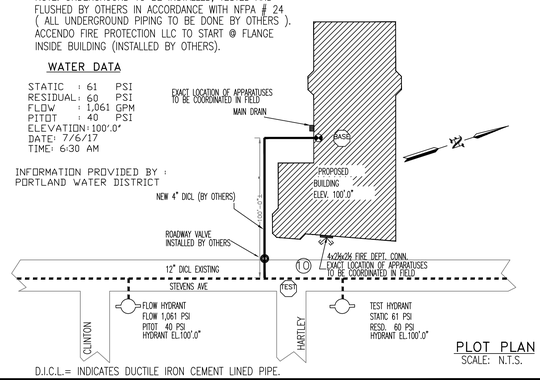
1. GENERAL CONTRACTOR: DUCAS CONSTRUCTION
2. BUILDING ADDRESS: 502 STEVENS AVE PORTLAND, MAINE
3. CONSTRUCTION: NEW WOOD FRAME STRUCTURE
4. AREA PROTECTED BY SPRINKLER SYSTEM: THE TOTAL AREA PROTECTED IS 7,340 SQ. FT.
5. MAXIMUM SPRINKLER HEAD SPACING: 15' x 15' OR & 18' X 18' RESIDENTIAL
6 MAXIMUM SQUARE FOOTAGE PER SPRINKLER HEAD: 225 OR & 324 RESIDENTIAL SQ. FT.
7. SPRINKLER SYSTEM DESIGNER: JWD NICET LEVEL III CERT # 116803
8. SPRINKLER DESIGN CHECKED BY: CKD NICET LEVEL III CERT # 091641 RMS # 406
9. MAINE STATE CONTRACTORS LICENSE # 1048

NOTE: UNDERGROUND TO BE INSTALLED, TESTED AND FLUSHED BY OTHERS IN ACCORDANCE WITH NFPA # 24 (ALL UNDERGROUND PIPING TO BE DONE BY OTHERS). ACCENDO FIRE PROTECTION LLC TO START @ FLANGE INSIDE BUILDING (INSTALLED BY OTHERS).

WATER DATA

STATIC : 61 PSI
RESIDUAL: 60 PSI
FLOW : 1,061 GPM
PITOT : 40 PSI
ELEVATION: 100'-0"
DATE: 7/6/17
TIME: 6:30 AM

INFORMATION PROVIDED BY : PORTLAND WATER DISTRICT



PLOT PLAN

SCALE: N.T.S.

D.I.C.L.= INDICATES DUCTILE IRON CEMENT LINED PIPE.

ACCENDO FIRE PROTECTION

ACCENDO
FIRE PROTECTION LLC.
DESIGN INSTALLATION SERVICE
38 ADDITON ROAD
GREENE, MAINE 04236
(207) 946-6182

SCALE 1/8"=1'-0"

General Notes

1. All Pipe Locations are to be Field Measured Prior to Fabrication and Installation by Sprinkler Contractor.
2. All Dimensions Shown are Center to Center.
3. High Temperature Heads are to be Field Located Where Required.
4. All Pipes and Hangers are to be Installed per NFPA #13.
5. Hangers are to be U.L. Listed and F.M. Approved.

Symbols	
Symbol	Description
⬡	Hydraulic Reference Points
[18 #g]	Elev. Below Top of Steel
[8-6]	Elev. Above Finished Floor
+ (TOS 20-0)	Elev. of Top of Steel
⟺	Ceiling Height
⌐	Denotes Hanger Location
◇	Rise up or down

REVISION BLOCK	
REVISION	Description

Drawing Title	FP-1	Revisions:	Date:
Contract No.	17-1010		
Drawn By	JWD		
Scale	1/8"= 1'-0"		
Date	7/10/17		
Approval By	SFMO, PORTLAND		

Job:
502 DEERING CENTER
502 STEVENS AVE
PORTLAND, MAINE

Contractor:
ACCENDO FIRE PROTECTION LLC
38 ADDITON RD
GREENE, MAINE

SHEET 1 OF 1