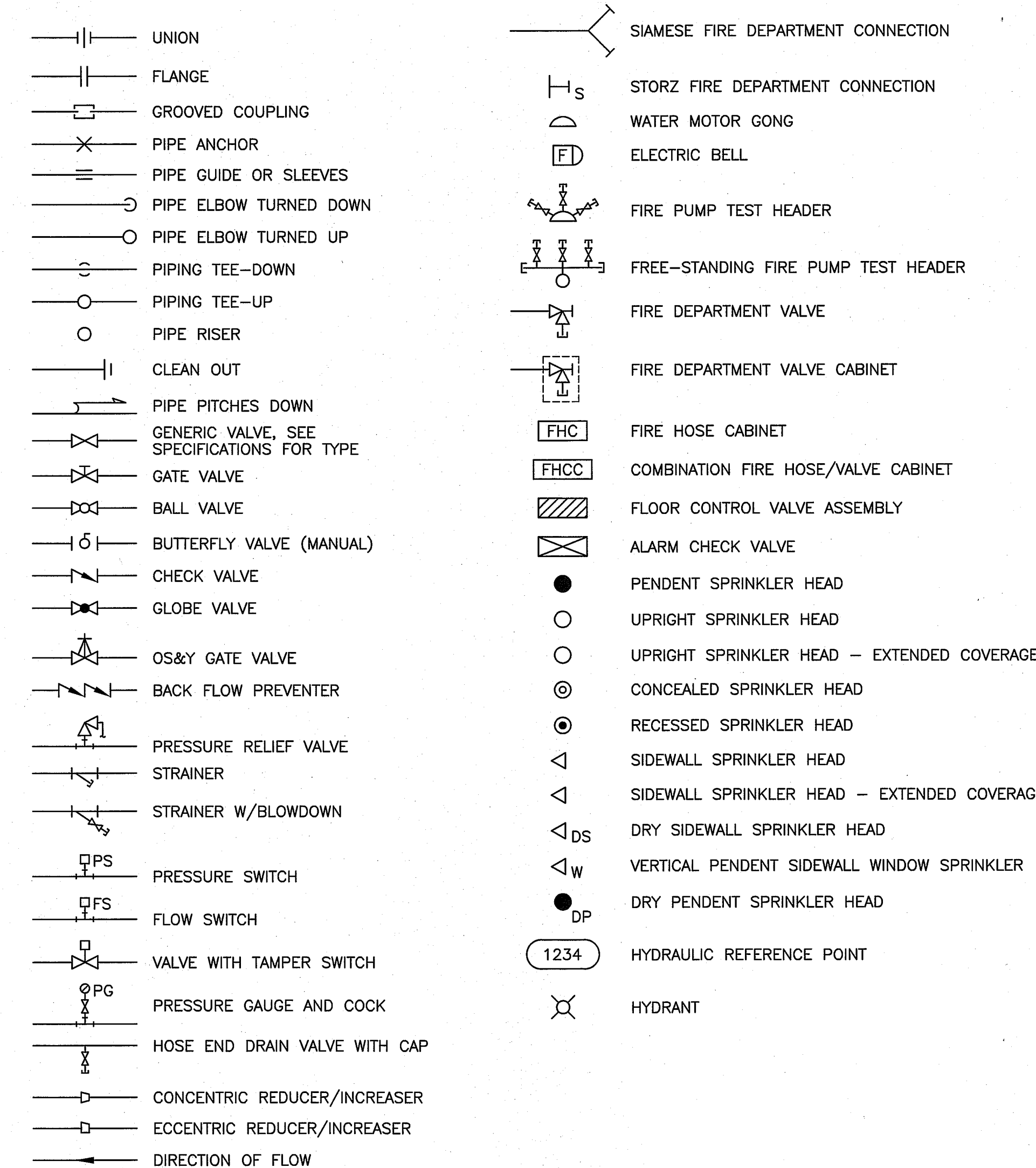
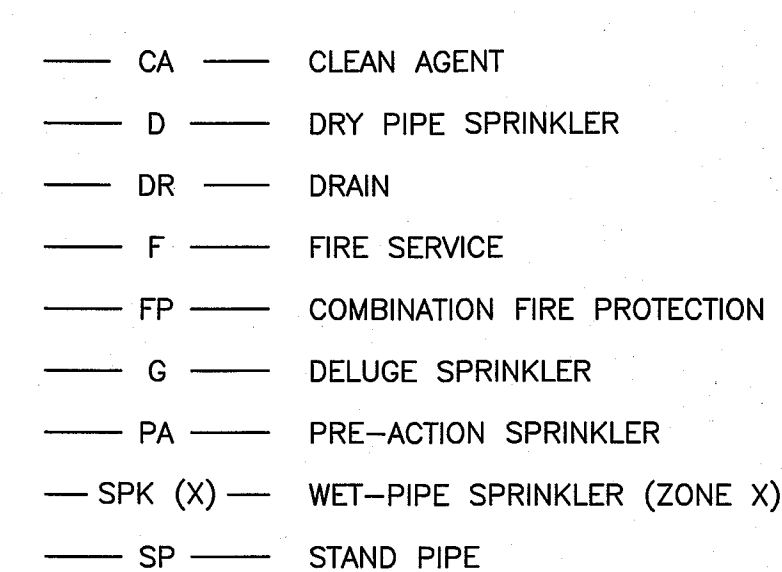


**PIPING SYMBOLS**



**PIPING SYSTEMS**

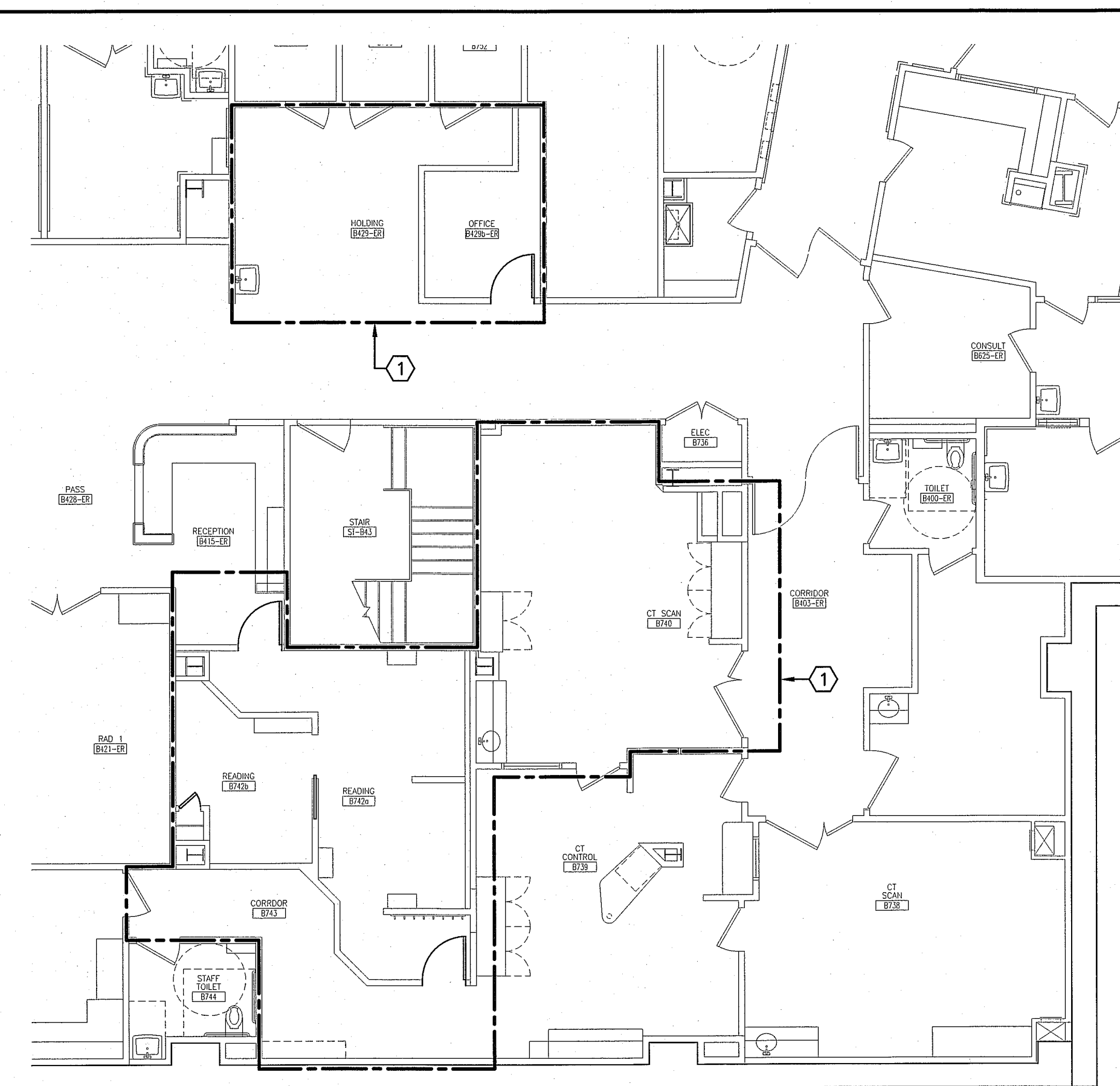


**ABBREVIATIONS**

AD	ACCESS DOOR	GC	GENERAL CONTRACTOR
AHJ	AUTHORITY HAVING JURISDICTION	GPM	GALLONS PER MINUTE
AP	ACCESS PANEL	HVAC	HEATING, VENTILATING AND AIR CONDITIONING
BFP	BACKFLOW PREVENTER	ITS	INSPECTOR'S TEST STATION
BLDG	BUILDING	LFPC	LIMIT OF FIRE PROTECTION CONTRACT
BOP	BOTTOM OF PIPE	MAX	MAXIMUM
CA	CLEAN AGENT	MFR	MANUFACTURER
CFE	CAPPED FOR FUTURE	MIN	MINIMUM
CLG	CEILING	MTD	MOUNTED
CONT	CONTINUATION	NTS	NOT TO SCALE
COORD	COORDINATE	PACV	PRE-ACTION ALARM CHECK VALVE
CTE	CONNECT TO EXISTING	PC	(FIRE DEPARTMENT) PUMPER CONNECTION
CU	COPPER	PIV	POST INDICATING VALVE
CW	COLD WATER	PLBG	PLUMBING
DACV	DRY PIPE ALARM CHECK VALVE	PRV	PRESSURE REDUCING VALVE
DIA	DIAMETER	PS	PRESSURE SWITCH
DIC	DOWN IN CHASE	(R)	REMOVE
DIW	DOWN IN WALL	(REL.)	RELOCATED
DCVA	DOUBLE CHECK VALVE ASSEMBLY	RM	ROOM
DN	DOWN	RPZ	REDUCED PRESSURE ZONE BFP
DR	DRAIN	RV	RELIEF VALVE
DS	DOWNSPOUT	SACV	(WET PIPE) SPRINKLER ALARM CHECK VALVE
DT	DROP AND TRANSITION	SD	SMOKE DETECTOR
DWG	DRAWING	SP	STAND PIPE
ENC	ENCLOSURE	SPK	SPRINKLER
(E)	EXISTING	TH	(FIRE DEPARTMENT) TEST HEADER
EXIST.	EXISTING	TOP	TOP OF PIPE
FBO	FURNISHED BY OWNER	TS	TAMPER SWITCH
FC	FLEXIBLE CONNECTION	TTS	TIGHT TO STEEL
FCVA	FLOOR CONTROL VALVE ASSEMBLY	TYP	TYPICAL
FDC	FIRE DEPARTMENT CONNECTION	UIC	UP IN CHASE
FDV	FIRE DEPARTMENT VALVE	UIW	UP IN WALL
FDVC	FIRE DEPARTMENT VALVE CABINET	UL	UNDERWRITER'S LABORATORY
FEX	FIRE EXTINGUISHER	VCFF	VALVED AND CAPPED FOR FUTURE
FH	FIRE HOSE	W/	WITH
FHC	FIRE HOSE CABINET	WIV	WALL INDICATING VALVE
FM	FACTORY MUTUAL	WMG	WATER MOTOR GONG
FS	FLOW SWITCH		

**SPECIFICATIONS**

- 21\_00\_00 - GENERAL REQUIREMENTS**
- THE FOLLOWING APPLIES TO FIRE PROTECTION PIPING TRADES.
  - OBTAIN ALL PERMITS AND APPROVALS TO PERFORM THE WORK.
  - VERIFY ALL MEASUREMENTS AND EXISTING CONDITIONS IN THE FIELD. ALL OFFSETS, OBSTRUCTIONS, AND EXISTING CONFIGURATIONS AND CONSTRAINTS MUST BE FIELD VERIFIED.
  - INSTALL ALL NEW AND RELOCATED EXISTING COMPONENTS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS, APPLICABLE CODES AND STANDARDS.
  - COORDINATE WITH OWNER FURNISHED EQUIPMENT AND SYSTEMS.
  - THIS RENOVATION WORK WILL TAKE PLACE IN OCCUPIED SPACE. INSTALLATIONS SHALL NOT AFFECT ONGOING OPERATIONS. COORDINATE HOURS AVAILABLE TO PERFORM WORK WITH THE OWNER AND GENERAL CONTRACTOR.
  - SEAL INTERIOR PIPE PENETRATIONS WITH FIRE SEALANT. SEAL EXTERIOR WALL PIPE PENETRATIONS WATER TIGHT.
  - CUT AND PATCH SURFACES, RESTORING ORIGINAL FINISHES.
  - EQUIPMENT LISTED IS THE BASIS OF DESIGN, OR APPROVED EQUAL.
  - SUBMITTALS, PRE-CONSTRUCTION: SUBMIT CATALOG CUT SHEETS OF PROPOSED EQUIPMENT FOR ENGINEER REVIEW AND APPROVAL PRIOR TO PURCHASE AND INSTALLATION.
  - SUBMITTALS, DURING CONSTRUCTION: SUBMIT COPIES OF PIPE ROUGH-IN PRESSURE TESTS AS COMPLETED.
  - SUBMITTALS, POST CONSTRUCTION: SUBMIT COPIES OF FINAL PRESSURE TEST, FLUSHING AND PLUMBING DISINFECTION REPORTS. SUBMIT COPIES OF COMPLETED MANUFACTURER START UP REPORTS FOR EQUIPMENT.
  - OPERATIONS AND MAINTENANCE MANUALS: SUBMIT ALL TESTING DATA AND COPIES OF APPROVED PRODUCT DATA, INCLUDING MAINTENANCE INFORMATION IN A TABBED, NEATLY ORGANIZED THREE RING BINDER. INCLUDE VALVE IDENTIFICATION CHARTS PROVIDE 3 COPIES TO THE OWNER.
  - PIPE IDENTIFICATION; LABELING SHALL APPEAR AT INTERVALS OF NOT MORE THAN 20 FEET AND AT LEAST ONCE IN EACH ROOM AND EACH STORY TRAVERSED BY THE PIPING SYSTEM. ALL PIPING SHALL BE CLEARLY IDENTIFIED SPECIFICALLY FOR TYPE OF SERVICE WITH COILED PLASTIC PIPE MARKERS AND FLOW DIRECTION ARROWS.
  - VALVE IDENTIFICATION: PROVIDE A CIRCULAR BRASS TAG AND CHAIN ON EACH VALVE. TAG TO INCLUDE A DISCRETE NUMBER AND SHALL BE COORDINATED WITH ANY CURRENT FACILITY NUMBERING SCHEME OR STANDARD.
  - RECORD DRAWINGS; MAINTAIN A CURRENT SET OF MARKED UP CONSTRUCTION DRAWINGS ON SITE AT ALL TIMES. PROVIDE A COMPLETE SET OF THESE RECORD MARK-UPS TO THE ARCHITECT AT THE END OF THE PROJECT.
- 21\_05\_00 - SPRINKLER SYSTEM DESIGN AND GENERAL REQUIREMENTS**
- DESIGN AND PERFORM FIRE SPRINKLER WORK PER THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE (WITH MAINE AMENDMENTS), NFPA 13 AND PER FACTORY MUTUAL STANDARDS.
  - DESIGN AND INSTALL COMPLETE SYSTEMS, INCLUDING BUT NOT LIMITED TO: PIPE, FITTINGS, SPRINKLERS AND ACCESSORIES (ESCUTCHEONS AT THRU-WALL PENETRATIONS). PROVIDE FLOW, PRESSURE AND SUPERVISORY DEVICES. COORDINATE SYSTEM SUPERVISION WITH THE FIRE ALARM CONTRACTOR.
  - PROVIDE SUPPORTS PER NFPA 13, INCLUDING SEISMIC BRACING.
  - PROVIDE AUTOCAD GENERATED SHOP/LAYOUT DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
  - DESIGN CRITERIA - HOSPITALS, HOSPITAL LABORATORIES AND OFFICE SPACE PER FM HC-1. SYSTEM TO BE AN EXTENSION OF AN EXISTING HYDRAULICALLY CALCULATED SYSTEM. 0.1 GPM OVER 2500 SF PLUS 250 GPM HOSE STREAM WITH A SPRINKLER K-FACTOR OF 5.6.
  - HYDRAULIC DESIGN CRITERIA, GENERAL:
    - MAXIMUM PIPE LINE VELOCITY: 25 FPS
  - INSTALL SYSTEM AS TIGHT TO STRUCTURE AS POSSIBLE TO MAXIMIZE AVAILABLE HEADROOM. ARRANGE SPRINKLERS IN LOGICAL PATTERNS. CENTER HEADS IN CEILING TILES WHERE APPLICABLE.
  - PROVIDE NEW SPRINKLER HEADS WITHIN SCOPE OF WORK AREA. COORDINATE BRANCH PIPE ROUTING WITH ALL MEP SYSTEMS. COORDINATE SPRINKLER HEAD LOCATION WITH CEILING MOUNTED DIFFUSERS, LIGHTS AND OTHER CEILING MOUNTED DEVICES AND PER NFPA 13 AND FM GLOBAL REQUIREMENTS.
- 22\_10\_00 - FIRE PROTECTION SPRINKLER PIPING SYSTEMS**
- PROVIDE COMPONENTS AND INSTALLATIONS CAPABLE OF PRODUCING PIPING SYSTEMS WITH THE FOLLOWING MINIMUM WORKING PRESSURE RATINGS, UNLESS OTHERWISE NOTED:
    - FIRE PROTECTION SPRINKLER SYSTEMS: 175 PSIG.
  - SYSTEM COMPONENTS TO BE UL LISTED AND FM APPROVED.
  - ABOVE GRADE WET SYSTEM SPRINKLER PIPING (SPK)
    - PIPING 2-INCH AND SMALLER: SCHEDULE 40 STEEL WITH THREADED IRON FITTINGS.
    - PIPING 2-1/2-INCH AND LARGER: SCHEDULE 10 STEEL WITH GROOVED FITTINGS.
  - SPRINKLER SYSTEM VALVES AND SPECIALTIES: PROVIDE VALVES, INSPECTOR'S TEST STATIONS AND TRIM AS NECESSARY.
    - INCLUDE HYDRAULIC PLACARDS AND OTHER SIGNAGE AS REQUIRED BY NFPA 13.
    - BUTTERFLY CONTROL VALVES UP TO 2-1/2" VICTAULIC #706 - 300 PSI SERIES.
  - FIRE SPRINKLERS: RELIABLE QUICK RESPONSE, FM APPROVED SPRINKLERS THROUGHOUT. NON QUICK RESPONSE SPRINKLERS MUST BE APPROVED BY FM GLOBAL.
    - ROOMS WITH SUSPENDED CEILING: SEMI-RECESS TYPE SPRINKLERS WITH WHITE FINISH.
    - ROOMS WITHOUT CEILING: UPRIGHT WITH SPRINKLER GUARDS FOR SPRINKLERS SUBJECT TO MECHANICAL DAMAGE.
    - ROOMS WITH HARD DRYWALL CEILING: CONCEALED TYPE SPRINKLERS.
    - PROVIDE SPRINKLERS WITH TEMPERATURE RATINGS IN ACCORDANCE WITH NFPA 13.
  - FIRE SPRINKLER SYSTEM TESTING: TEST SYSTEMS PER NFPA 13 AND FM REQUIREMENTS, AND AS DIRECTED BY THE AHJ. MAKE CORRECTIONS AND RETEST AS NECESSARY. PROVIDE NFPA 13 AND FM STANDARD ABOVE-GRADE TEST REPORTS.



**NOTE:**

- SEE SHEET F-001 FOR LEGEND AND ABBREVIATIONS.
- PROVIDE SPRINKLER COVERAGE THROUGHOUT AREA OF RENOVATION IN ACCORDANCE WITH NFPA 13.

**KEYED NOTES:**

- REWORK EXISTING SPRINKLER SYSTEM WITHIN THE SCOPE OF WORK AREA.

**A1 FIRE PROTECTION PLAN**

1/4"=1'-0"

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LICENSED PROFESSIONAL ENGINEER  
1/2/15

MAINE MEDICAL CENTER  
ED CT FIT-UP AND READING RENOVATIONS  
PORTLAND, MAINE

ISSUED FOR PERMITTING  
1-12-15

REV	DESCRIPTION	DATE	CURRENT ISSUE STATUS

GRAPHIC SCALE:  
0" 1"

SCALE: AS NOTED  
PROJECT MANAGER: DJV  
JC/DRAWN BY: KPB  
A/E OF RECORD: CJM  
CAD FILE: FP101-14150  
PROJECT NO: 14150  
DATE:                      

SHEET TITLE:  
**FIRE PROTECTION PLAN, LEGEND AND SPECIFICATIONS**

SHEET No.  
**FP101**  
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