FIRE PROTECTION SYMBOL LIST

- FIRE STANDPIPE PIPING (STANDALONE)
- SPRINKLER PIPING
- DSP — DRY SPRINKLER PIPING
- PA — PRE-ACTION SPRINKLER PIPING
- DR — DRAIN PIPING
- PIPING BELOW SLAB
- EXISTING PIPING
- EXISTING WORK TO BE REMOVED
- HEAT TRACE / FREEZE PROTECTION CABLE & INSULATION
- SLOPED CHANGE IN PIPE ELEVATION
- BOTTOM PIPE CONNECTION
- TOP PIPE CONNECTION
- SIDE CONNECTION
- PIPE DOWN/DROP
- PIPE RISE/UP
- PIPE SLOPE
- VALVE IN VERTICAL
- UNION
- REDUCER
- WATER PROOF SLEEVE
- SLEEVE
- FE-X — FIRE EXTINGUISHER
  - A – WATER
  - B – DRY CHEMICAL
  - C – GASEOUS (CO2 OR HALON 1211 – SEE SPEC.)
- FE-X — FIRE EXTINGUISHER IN CABINET
- FIRE HOSE VALVE
- FIRE HOSE VALVE IN CABINET
- FIRE HOSE VALVE w/HOSE IN CABINET
- FE-X — FIRE HOSE VALVE w/FIRE EXTINGUISHER
- ROOF MANIFOLD (3-WAY)
- SPRINKLER CONTROL VALVE ASSEMBLY
- VALVE ASSEMBLY
  - AC – ALARM CHECK
  - DR – DRY PIPE
  - PA – PRE ACTION
- CONNECT TO EXISTING
- DISCONNECT FROM EXISTING
- FIRE DEPARTMENT SIAMESE CONNECTION (WALL MOUNTED)
- EXISTING FIRE HYDRANT
- NEW FIRE HYDRANT
- TEMPERATURE AND PRESSURE RELIEF VALVE
- PLUG VALVE
- MIXING VALVE
- RELIEF VALVE
- BALL VALVE
- GATE VALVE
- GLOBE VALVE
- OUTSIDE SCREW & YOKE (OS & Y) VALVE
- CHECK VALVE
- PRESSURE REDUCING VALVE (PRV)
- SOLENOID VALVE
- FLOAT VALVE
- Y STRAINER w/BLOW-OFF VALVE
- RPDA — REDUCED PRESSURE DETECTOR ASSEMBLY
- DCDA — DOUBLE CHECK DETECTOR ASSEMBLY
- HYDRAULIC REF. POINTS (#) = ELEMENT, (#) = NODE
- T — TAMPER SWITCH
- WATERFLOW SWITCH
- PRESSURE GAUGE w/GAUGE COCK
- RISER DESIGNATION:
  X = RISER SERVICE; # = RISER NUMBER
- EXTEND EXISTING SPRINKLER PIPING TO NEW SPRINKLER HEAD

ABBREVIATIONS

ABD	AUTOMATIC BALL DRIP
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
BOP	BOTTOM OF PIPE
CFM	CUBIC FEET PER MINUTE
CV	CHECK VALVE
DIA	DIAMETER
DR	DRAIN
DN	DOWN (PENETRATES FLOOR SLAB)
(E)	EXISTING
(ER)	EXISTING TO BE REMOVED
(ERR)	EXISTING TO BE REMOVED & RELOCATED
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FHV	FIRE HOSE VALVE
FHVC	FIRE HOSE VALVE CABINET
FD	FLOOR DRAIN
FL	FLOOR
FP	FIRE PUMP
FSP	FIRE STANDPIPE
FT	FEET
GC	GENERAL CONTRACTOR
GV	GATE VALVE
GAL	GALLONS
GPM	GALLONS PER MINUTE
HD	HEAT DETECTOR
ID	INSIDE DIAMETER
IN	INCH
JP	JOCKEY PUMP
MAX	MAXIMUM
MIN	MINIMUM
NC	NORMALLY CLOSE
NIC	NOT IN THIS CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OS&Y	OUTSIDE SCREW & YOKE GATE VALVE
PA	PRE-ACTION
PSIA	POUNDS PER SQUARE INCH (ABSOLUTE)
PSI	POUNDS PER SQUARE INCH (GAUGE)
PRV	PRESSURE REDUCING VALVE
(RE)	RELOCATED EXISTING
(RRO)	EXISTING TO BE REMOVED AND RETURN TO OWNER
SD	SMOKE DETECTOR
SPKR	SPRINKLER
TOP	TOP OF PIPE
TS	TAMPER SWITCH
UON	UNLESS OTHERWISE NOTED
UP	UP (PENETRATES FLOOR SLAB)
VB	VACUUM BREAKER
WFS	WATER FLOW SWITCH
Z	ZONE

NOTES:

1. NEW BRANCH PIPE SIZING AS FOLLOWS

1 SP. HEAD	1"
2 SP. HEAD	1"
3 SP. HEAD	1-¼"
4 SP. HEAD	1-½"
5 SP. HEAD	1-½"
6 SP. HEAD	2"
↓	↓
10 SP. HEAD	2"
11 SP. HEAD	2-½"

DEMOLITION NOTES

1. REMOVE EXISTING SPRINKLER HEADS AND PIPING IN THE AREA OF WORK, BACK TO EXISTING SPRINKLER MAINS. ALL ABANDONED PIPING TO BE REMOVED.
2. MAKE ANY NECESSARY TEMPORARY CONNECTIONS BETWEEN EXISTING AND NEW WORK TO MAINTAIN CONTINUOUS SERVICE OF ALL EXISTING SYSTEMS. MINIMIZE SHUTDOWNS. OBTAIN WRITTEN APPROVAL FROM ARCHITECT/OWNER FOR SHUTDOWNS. ALL SHUT-DOWNS REQUIRE 48 HOUR NOTICE TO OWNER.
3. CONTRACTOR SHALL CAREFULLY EXAMINE EXISTING CONDITIONS BEFORE STARTING ANY WORK.
4. CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER BEFORE REMOVING OR RELOCATING ANY EXISTING PIPING NOT INDICATED ON DRAWINGS.

FIRE PROTECTION GENERAL NOTES

1. GENERAL NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL FIRE PROTECTION DRAWINGS.
2. ALL WORK IS NEW UNLESS OTHERWISE NOTED.
3. ALL FIRE PROTECTION WORK SHALL BE IN ACCORDANCE WITH THE CURRENT FIRE PROTECTION CODE AND ALL APPLICABLE LOCAL CODES AND DRAWINGS.
4. REFER TO SPECIFICATION SECTION 01362 FOR GENERAL LEED REQUIREMENTS FOR COMMERCIAL INTERIORS.
5. REFER TO SPECIFICATION SECTION 01810 FOR LEED REQUIREMENTS FOR COMMISSIONING.
6. PROVIDE WET-PIPE SPRINKLERS IN ALL AREAS. PROVIDE DRY-TYPE SPRINKLER SYSTEM IN ALL AREAS WHERE AMBIENT TEMPERATURE IS 40 DEG F OR BELOW. PROVIDE PRE-ACTION AND/OR GASEOUS AGENT SYSTEM TO CRITICAL AREAS.
7. SECURE WATER FLOW TEST DATA TAKEN FROM FIRE HYDRANTS NEAREST SITE. IF RECENT FLOW TEST DATA (LESS THAN ONE-YEAR OLD) IS NOT AVAILABLE FROM CITY RECORDS, MAKE NECESSARY TESTS AS REQUIRED BY NFPA STANDARDS TO DETERMINE CHARACTER OF WATER SUPPLY. MINIMUM OF 20 PSI DROP IN PRESSURE BETWEEN STATIC AND RESIDUAL PRESSURE SHALL BE REQUIRED IN ORDER TO OBTAIN ACCURATE DATA.
8. SPRINKLER SYSTEM SHALL BE HYDRAULICALLY CALCULATED FOR LIGHT, ORDINARY, AND EXTRA HAZARD OCCUPANCIES EXCEPT AS NOTED.
9. ADD 10% CONTINGENCY FACTOR TO HYDRAULIC CALCULATIONS.
10. EXACT LOCATION OF SPRINKLER HEADS IN FINISHED AREAS WITH SUSPENDED CEILING SHALL BE AS INDICATED ON REFLECTED CEILING PLANS.
11. MINIMUM PRESSURE AT END SPRINKLER HEAD 7 PSI, OR AS REQUIRED BY SPRINKLER HEAD, WHICHEVER IS GREATER.
12. EQUIVALENT FITTING LENGTHS USED IN HYDRAULIC CALCULATIONS SHALL BE IN ACCORDANCE WITH NFPA STANDARD NO. 13 AND FACTORY MUTUAL 0.5 2-8N.
    - 12.1. WHEREVER FITTINGS ARE USED IN CONJUNCTION WITH SCH.40 BLTC LIGHTWALL PIPE, EQUIVALENT FITTING LENGTHS INDICATED IN NFPA-13 SHALL BE INCREASED BY 39%.
13. MAXIMUM FLOW VELOCITY SHALL NOT EXCEED 20 F.P.S.
14. ALL AUTOMATIC SPRINKLER HEADS, PIPE FITTINGS, PIPE HANGERS, AUTOMATIC CONTROL VALVES AND MANUAL CONTROL VALVES SHALL BE UL LISTED AND BEAR FACTORY MUTUAL APPROVAL AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
15. ALL EXPOSED PIPE, FITTINGS, HANGERS AND SUPPLEMENTARY STEEL SHALL BE PAINTED.
16. ENDS OF ALL CROSS MAINS SHALL BE PROVIDED WITH THREADED FLUSHING CONNECTION NO MORE THAN 2 INCHES IN DIAMETER.
17. PROVIDE AUXILIARY DRAINS FOR ALL PIPING BELOW DUCT SPRINKLERS AND OPEN TRAPPED SECTIONS. PIPING TO ONE SINGLE SPRINKLER IS EXCLUDED.
18. PROVIDE FLUSHING CONNECTIONS WHERE REQUIRED BY NFPA AND F.M.
19. COORDINATE WITH OWNER FOR ALL SHUTDOWNS.
20. PROVIDE TEST CONNECTIONS AT HIGHEST POINT OF MAIN PORTION OF EACH SPRINKLER SYSTEM, WITH 1" PIPE AND VALVE. TEST PIPE SHALL BE CONNECTED TO SPRINKLER PIPE AT LEAST 1-1/4" IN SIZE AND SHALL DISCHARGE OUTSIDE BUILDING OR THROUGH 1/2" SMOOTH BORE BRASS OUTLET, WHERE IT CAN BE EASILY SEEN.
21. PROVIDE ADDITIONAL HEADS UNDER DUCTWORK LARGER THAN 48" WIDE.
22. THE REUSE OF EXISTING SPRINKLER HEADS SHALL BE PROHIBITED.
23. NEW SPRINKLER HEAD TYPE AND TEMPERATURE RATING SHALL BE IN ACCORDANCE WITH SCHEDULE UNLESS NOTED OTHERWISE AND/OR REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
24. COORDINATE ALL PIPE PENETRATIONS AND CORING WITH STRUCTURAL ENGINEER AND IN ACCORDANCE WITH DIVISION 01.
25. REFER TO ARCHITECTURAL DRAWINGS FOR ALL CEILING RELATED WORK.
26. COORDINATE ALL NEW FIRE PROTECTION WORK WITH ALL EXISTING AND/OR NEW DUCTWORK, PIPING AND UTILITIES OF ANY SYSTEMS. DRAWINGS ARE DIAGRAMMATIC AND SHOW THE INTENT OF THE DESIGN. REROUTE ANY PIPING AROUND EXISTING AND/OR NEW SYSTEMS INCLUDING ALL REQUIRED FITTINGS AND SUPPORTS TO MAKE THE INSTALLATION OF THE PIPING AND SPRINKLER HEADS POSSIBLE. RESEAL ANY FIRE AND/OR SMOKE RATED PENETRATIONS THAT HAVE BEEN AFFECTED AS A RESULT OF THE MODIFICATION.
27. ALL COMPONENTS USED IN FIRE PROTECTION SYSTEMS SHALL BE IN ACCORDANCE WITH THE OWNER'S GUIDELINES, STANDARDS AND SPECIFICATIONS.

SPRINKLER HEAD SCHEDULE

TYPE	DESIGNATION	UPRIGHT	PENDENT	FLUSH PLATE SPKR	RECESSED	SIDEWALL	DRY	QUICK RESPONSE	EXTENDED COVERAGE	EXIST SPKR HD TO BE REMOVED	EXIST SPRINKLER HD	MANUFACTURER: RELIABLE	MANUFACTURER: GRINNELL	MANUFACTURER: STAR	MANUFACTURER: VIKING	MODEL NUMBER	REMARKS
	○										X						
	⊠									X							
	●		X	X				X								VK462	K=5.6, ½" ORIFICE 155°F RATING
	◁																
	◀					X										VK156	K=5.6, ½" ORIFICE 165°F RATING
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NOTES:

1. EXPOSED UPRIGHT HEADS IN OCCUPIED SPACES SHALL BE CHROME FINISH.
2. PROVIDE ESCUTCHEONS WHEN PENETRATING EXPOSED WALL.
3. PROVIDE SPRINKLER GUARDS AT ALL HEADS 7'-0" AND LOWER.
4. COLOR SELECTION BY ARCHITECT.

SPRINKLER DESIGN CRITERIA

ENTIRE SPRINKLER SYSTEM SHALL BE HYDRAULICALLY CALCULATED TO MEET FOLLOWING CRITERIA:

1. ORDINARY 1 HAZARD OCCUPANCY – STORAGES, MECHANICAL ROOMS, PANTRY, COPY ROOMS, CONFERENCE ROOMS, DENSITY 0.15 GPM PER SQ. FT OVER MOST HYDRAULICALLY REMOTE 1500 SQ. FT., MAXIMUM COVERAGE PER SPRINKLER HEAD 130 SQ. FT.
2. LIGHT HAZARD OCCUPANCY – DATA CENTER, OFFICE SPACE AND ALL OTHER AREAS: DENSITY 0.10 GPM PER SQ. FT. OVER MOST HYDRAULICALLY REMOTE 1500 SQ. FT., MAXIMUM COVERAGE PER SPRINKLER HEAD 225 SQ. FT.
3. CLOSELY SPACED SPRINKLER HEADS LOCATED 6"-0" O.C. AND LOT LINE SPRINKLERS SHALL DISCHARGE MINIMUM 3 GPM PER LINEAR FOOT OF PROTECTED LINE. NUMBER OF CLOSELY SPACED SPRINKLERS INCLUDED IN HYDRAULIC CALCULATIONS SHALL BE IN ACCORDANCE WITH NFPA-13 PARA. 4-4.8.2.3.
4. MINIMUM PRESSURE AT SPRINKLER HEAD – 7 PSI OR AS REQUIRED BY SPRINKLER HEAD, WHICHEVER IS GREATER.
5. WHENEVER ROLL GROOVED CONNECTIONS ARE USED, ALLOWANCE FOR ADDITIONAL PRESSURE LOSS AT GROOVES SHALL BE MADE AS FOLLOWS:
   - 5.1. FOR EACH COUPLING ON STRAIGHT RUN INCLUDING STRAIGHT FLOW THROUGH TEE OR CROSS: ADD 1 EQUIVALENT FOOT OF PIPE.
   - 5.2. FOR EACH COUPLING AT ELBOW, TEE OR CROSS WHERE DIRECTION OF FLOW CHANGES: ADD 2 EQUIVALENT FEET OF PIPE;
6. EQUIVALENT FITTING LENGTHS USED IN HYDRAULIC CALCULATIONS SHALL BE IN ACCORDANCE WITH NFPA STANDARD NO. 13
   - 6.1. WHEREVER FITTINGS ARE USED IN CONJUNCTION WITH LIGHTWALL PIPE, EQUIVALENT FITTING LENGTHS INDICATED IN NFPA-13 SHALL BE INCREASED BY 30%
7. DISCHARGE FROM EACH SPRINKLER HEAD SHALL NOT BE LESS THAN REQUIRED FOR AREA COVERED BY THIS HEAD. AREA COVERAGE PER HEAD SHALL BE DETERMINED IN ACCORDANCE WITH NFPA STANDARD NO. 13, PARAGRAPH 7-4.3.1.2.
8. HYDRAULIC CALCULATIONS SHALL BE BROUGHT BACK TO CONNECTION TO WATER SUPPLY FIRE STANDPIPE RISER.
9. PRELIMINARY WATER SUPPLY INFORMATION: AT EXISTING FLOOR CONTROL ASSEMBLY INDICATED ON THE RISER DIAGRAM.
10. SYSTEMS SHALL BE BALANCED TO MAINTAIN MINIMUM 30 MINUTES FIRE RESERVE.

SPRINKLER SYSTEM DESIGN CRITERIA

AREA OF SERVICE	OFFICES/GENERAL AREAS	MECHANICAL SPACES	STORAGE
OCCUPANCY CLASSIFICATION	LIGHT HAZARD	ORDINARY GROUP I	ORDINARY GROUP II
MOST REMOTE AREA	1500 ø	1500 ø	1500 ø
DENSITY	0.10 GPM/ø	0.15 GPM/ø	0.20 GPM/ø
COVERAGE	225 ø/HEAD	130 ø/HEAD	100 ø/HEAD
HOSE ALLOWANCE	100 GPM	250 GPM	250 GPM
SPRINKLER HEAD	CONCEALED, SIDEWALL	PENDENT/ UPRIGHT	PENDENT/ UPRIGHT
SPRINKLER TYPE	QUICK RESPONSE	STANDARD RESPONSE	STANDARD RESPONSE
TEMPERATURE RATING	155° F	212° F	212° F
K-FACTOR	5.6	5.6	8.0
ORIFICE	½"	½"	17/32"
SYSTEM TYPE	WET	WET	WET

FIRE PROTECTION DRAWING LIST

DRAWING NO.	DRAWING TITLE
F00-01	FIRE PROTECTION COVER SHEET
F00-10	FIRE PROTECTION DETAILS
F00-20	FIRE PROTECTION SPECIFICATIONS
F01-01	RICHARDS 7 – FIRE PROTECTION FLOOR PLAN – WEST
F01-02	RICHARDS 8 – FIRE PROTECTION FLOOR PLAN – WEST
F01-03	RICHARDS 8 – FIRE PROTECTION FLOOR PLAN – EAST
F01-04	RICHARDS 9 – FIRE PROTECTION FLOOR PLAN – WEST
F01-05	RICHARDS 9 – FIRE PROTECTION FLOOR PLAN – EAST
F01-06	RICHARDS ROOF – FIRE PROTECTION FLOOR PLAN – EAST

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Maine Medical Center MaineHealth

MAINE MEDICAL CENTER
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06.24.2016
ISSUE CHART

NO	ISSUE	DATE
	ISSUED FOR PERMIT	06.24.2016

Job Number B160089-000
Checked DGC
Approved PJR

TITLE
FIRE PROTECTION COVER SHEET

SHEET NUMBER
F00-01

2" 1" 1/2" 0
SAVE DATE: 6/24/2016 9:24 AM
PLOT DATE: 6/24/2016 1:33 PM
LOGIN: Champagne, Deanna
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