

FIRE PROTECTION LEGEND		
NEW WORK	DESCRIPTION	ABBREVIATIONS
FS	WATER FLOW SWITCH	ABV ABOVE FINISH FLOOR
TS	VALVE SUPERVISORY SWITCH	BEL BELOW
	FIRE SPRINKLER SUPPLY PIPING	BFP BACKFLOW PREVENTER
		CONT CONTINUATION
		CON DOWN
		EC ELECTRICAL CONTRACTOR
		FDC FIRE DEPARTMENT CONNECTION
		FTE FINISHED FLOOR ELEVATION
		FIN FINISH FLOOR
		FR FROM
		FSY FLOW SWITCH
		OS&Y OUTSIDE SCREW AND YOKE PRE-ACTION
		PA POST INDICATOR VALVE
		PS PRESSURE SWITCH
		PSI POUNDS PER SQUARE INCH
		TS TAMPER SWITCH
		TYP TYPICAL
		OH-2 ORDINARY HAZARD - GROUP 2

SPRINKLER NOTE:
 SPRINKLER PLANS AS SHOWN ARE FOR BIDDING PURPOSES ONLY. SPRINKLER CONTRACTOR IS TO OBTAIN A CURRENT WATER FLOW TEST AND PROVIDE HYDRAULIC CALCULATIONS FOR SYSTEM PIPE SIZING IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 13. CONTRACTOR IS TO SUBMIT SHOP DRAWINGS AND HYDRAULIC CALCULATION, PIPING LAYOUT AND SIZING. SHOP DRAWINGS AND CALCULATION SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER.

FIRE PROTECTION DESIGN CRITERIA AND NOTES

LIGHT HAZARD OCCUPANCY

DESIGN DENSITY: 0.10 GPM/SQ. FT.
 HYDRAULICALLY MOST DEMANDING AREA: 1,500 SQ. FT.
 SPRINKLER ORIFICE SIZE: 1/2"
 DURATION OF SUPPLY: 30 MIN.
 MAXIMUM COVERAGE/SPRINKLER HEAD: 225 SQ. FT.

ORDINARY HAZARD GROUP 2 OCCUPANCY

DESIGN DENSITY: 0.20 GPM/SQ. FT.
 HYDRAULICALLY MOST DEMANDING AREA: 1,500 SQ. FT.
 SPRINKLER ORIFICE SIZE: 1/2"
 DURATION OF SUPPLY: 60 - 90 MIN.
 MAXIMUM COVERAGE/SPRINKLER HEAD: 130 SQ. FT.

ORDINARY HAZARD GROUP 1 OCCUPANCY

DESIGN DENSITY: 0.15 GPM/SQ. FT.
 HYDRAULICALLY MOST DEMANDING AREA: 1,500 SQ. FT.
 SPRINKLER ORIFICE SIZE: 1/2"
 DURATION OF SUPPLY: 60 - 90 MIN.
 MAXIMUM COVERAGE/SPRINKLER HEAD: 130 SQ. FT.

DESIGN CRITERIA:
 THE FOLLOWING PUBLICATIONS AND AUTHORITIES HAVING JURISDICTION SHALL BE REFERENCED FOR THE DESIGN OF THE FIRE PROTECTION SYSTEM ON THIS PROJECT:

- NFPA 13, 2010 - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS
- NFPA 291, 2010 - RECOMMENDED PRACTICE FOR FIRE FLOW TESTING AND MARKING OF HYDRANTS
- NFPA 25, 2010 - STANDARD FOR THE TESTING, INSPECTION, AND MAINTENANCE OF WATER BASED FIRE PROTECTION SYSTEMS

GENERAL NOTES:

- THE SPRINKLER SYSTEM THROUGHOUT PROPOSED SCOPE OF WORK SHALL BE BASED ON THE LATEST EDITION OF NFPA 13 AND THE DEPARTMENT OF VETERANS AFFAIRS FIRE PROTECTION DESIGN MANUAL, 5TH EDITION, APRIL 2010.
- THE NEW SPRINKLER SYSTEM SHALL BE SIZED IN ACCORDANCE WITH NFPA 13 AND SHALL BE HYDRAULICALLY CALCULATED TO MEET THE REQUIREMENTS OF THE NFPA 13. THE CONTRACTOR SHALL ACQUIRE NEW FLOW TEST DATA TO UTILIZE AS A BASIS FOR HYDRAULIC CALCULATIONS.
- SPRINKLER HEADS SHALL BE QUICK RESPONSE CHROME-PLATED RECESSED HEADS, WITH FRANGIBLE GLASS ELEMENT IN ALL SUSPENDED CEILING APPLICATIONS.
- ALL UNFINISHED AREAS WITHOUT CEILING SHALL BE EQUIPPED WITH QUICK RESPONSE ROUGH BRASS UPRIGHT HEADS WITH FRANGIBLE GLASS ELEMENT.
- ALL HEADS SHALL HAVE A K FACTOR OF 5.6 - 5.8. TEMPERATURE RATINGS OF ALL SPRINKLER HEADS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 13.
- ENTIRE FACILITY IS CLASSIFIED AS ORDINARY HAZARD GROUP 2, EXCEPT AS NOTED ON THE FLOOR PLAN. SEE SHEET FP101/FP102, AND FP103 FOR HAZARD CLASSIFICATIONS.
- COORDINATE PIPE ROUTING WITH DUCT ROUTING, EQUIPMENT LOCATIONS, ELECTRICAL INSTALLATIONS, AND BUILDING STRUCTURAL MEMBERS. AVOID PENETRATING ANY MAIN STRUCTURAL BEAM. NOTIFY COTR OF ANY CONFLICTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING FIRE PROTECTION SYSTEM DESIGN AND SHOP DRAWINGS. CONTRACTOR SHALL MEET ALL REQUIREMENTS OF THE DATA LISTED IN THE CONTRACT DOCUMENTS.
- RECESSED PENDANT SPRINKLERS SHALL BE CENTERED IN CEILING TILES IN AREAS WITH LAY-IN TILES AND VISUALLY ALIGNED IN AREAS WITH HARD PLASTER CEILINGS. ALL SPRINKLERS SHALL BE FM/UL LISTED.
- PROVIDE SEISMIC BRACING FOR ALL PIPING PER NFPA-13. PROVIDE SHOP DRAWINGS OF ALL CALCULATIONS.
- MECHANICAL ROOMS, STORAGE ROOMS, ELECTRICAL ROOMS, ETC. SHALL BE CLASSIFIED AS ORDINARY HAZARD GROUP 1 OCCUPANCY. SEE SHEETS FP 101, AND FP103 FOR ORDINARY HAZARD GROUP 1 OCCUPANCY.
- DURING DESIGN CALCULATIONS, AN ALLOWANCE SHALL BE MADE FOR A 100 GPM HOSE STREAM.
- THE CONTRACTOR IS TO FURNISH A SET OF HYDRAULIC CALCULATIONS THAT TAKES INTO ACCOUNT ALL FITTINGS, OFFSETS, HARDWARE, DEVICES, CHARACTERISTICS AND TRIM THAT HE/SHE MAY DETERMINE NECESSARY FOR A COMPLETE SPRINKLER INSTALLATION.
- SPRINKLER HEADS AND ASSOCIATED BRANCH PIPING SHALL BE PROVIDED AND LOCATED IN ACCORDANCE WITH NFPA 13. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM LOCATIONS FOR COMPLIANCE WITH CODE REQUIREMENTS.
- THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING CURRENT FIRE FLOW TEST DATA IN CONFORMANCE WITH NFPA 291, UTILIZING A MINIMUM OF TWO FIRE HYDRANTS ON WHICH TO BASE HYDRAULIC CALCULATIONS.
- PROVIDE SPRINKLER PROTECTION FOR THE SCOPE OF WORK SHOWN ON THESE CONTRACT DOCUMENTS.
- SPRINKLER SYSTEM SHALL BE TESTED IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 25.
- ALL PIPING, VALVE, SPRINKLER HEADS, HANGERS, ETC. SHALL BE UL/FM APPROVED.

FIRE PROTECTION GENERAL NOTES

- THE CONTRACTOR SHALL EXAMINE THE PREMISES AND OBSERVE CONDITIONS UNDER WHICH THE WORK SHALL BE DONE OR OTHER CIRCUMSTANCES WHICH WILL AFFECT THE CONTEMPLATED WORK.
- BEFORE ASKING FINAL APPROVAL OF THE AUTOMATIC SPRINKLER EQUIPMENT, THE CONTRACTOR SHALL FURNISH A WRITTEN STATEMENT THAT THE WORK HAS BEEN COMPLETED AND TESTED IN ACCORDANCE WITH THE APPROVED DRAWINGS AND SPECIFICATIONS.
- THIS CONTRACTOR SHALL PROVIDE LOW POINT DRAINS WHEREVER NECESSARY. HE SHALL COORDINATE WITH ALL OTHER TRADES AS SPRINKLER WORK IS INSTALLED.
- LONG RUNS OF PIPE SHALL BE PROVIDED WITH SUITABLE MEANS TO PERMIT FREE MOVEMENT RESULTING FROM EXPANSION AND CONTRACTION OF THE PIPE. REDUCTION IN PIPE SIZES SHALL BE MADE WITH ONE-PIECE REDUCTION FITTINGS.
- SPRINKLER PIPING SHOULD BE ROUTED AS HIGH AS POSSIBLE WHILE STILL COORDINATING WITH OTHER TRADES. ELEVATIONS OF SPRINKLER PIPING AND HEAD MUST BE DETERMINED BY PROPOSED CEILING HEIGHTS, REFER TO ARCHITECTURAL DRAWINGS.
- THE FIRE PROTECTION CONTRACTOR WILL BE REQUIRED TO COORDINATE ACCEPTANCE FOR VARIATION OF EQUIPMENT LOCATION AND EQUIPMENT CONFIGURATIONS WITH THE COTR.
- THE SPRINKLER CONTRACTOR IS RESPONSIBLE FOR PROVIDING AUTOMATIC SPRINKLERS, SPARE HEADS, PIPE ESCUTCHEONS, DIELECTRIC UNIONS, DRIP PANS, PIPE LABELS, VALVE TAGS, SPRINKLER CABINET(S) AND WRENCH(ES), ANCHORS, SUPPORTS, SEALS, SLEEVES, SLEEVE SEALS, ETC., IN QUANTITIES ADEQUATE TO SATISFY THE INTENT OF THE CONTRACT DOCUMENTS.
- COORDINATE WITH OTHER WORK, INCLUDING HVAC, PLUMBING PIPING, ELECTRICAL AS NECESSARY TO INTERFACE COMPONENTS OF THE FIRE SPRINKLER PIPING PROPERLY WITH OTHER WORK.
- INSTALL VALVED INSPECTOR'S TEST CONNECTION ON SPRINKLER ZONES AT ITS RESPECTIVE HYDRAULICALLY MOST REMOTE AREA.
- IT IS THE INTENTION OF THE SPECIFICATIONS AND DRAWINGS TO CALL FOR A COMPLETE AND FUNCTIONAL SYSTEM, INSTALLED AS PER THE APPLICABLE CODES WITH ALL FINISHED WORK TESTED AND READY FOR OPERATION.
- THE FIRE PROTECTION CONTRACTOR SHALL SEAL ALL OF HIS PENETRATIONS OF FIRE RATED ASSEMBLIES USING U.L. PENETRATION ASSEMBLIES AS INDICATED ON THESE DRAWINGS. SEE SHEET G1003 FOR PENETRATION DETAILS.
- THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE ALL OPENINGS IN THE WALLS AND FLOORS REQUIRED TO COMPLETE HIS WORK UNLESS NOTED OTHERWISE. HE SHALL VERIFY THE LOCATION AND SIZE OF ALL OPENINGS REQUIRED UNDER THIS CONTRACT WITH THE GENERAL CONTRACTOR.

SEISMIC PERFORMANCE CRITERIA

SEISMIC USE GROUP	SEISMIC DESIGN CATEGORY	OCCUPANCY CATEGORY
IV	D	-
IMPORTANCE FACTOR = 1.0		

SYSTEM COMPONENTS SHALL INCLUDE: STEAM AND CONDENSATE PIPE, GAS PIPING, SANITARY PIPING, FIRE PROTECTION PIPING, PLUMBING WATER PIPING, ELECTRICAL CONDUIT, DUCTWORK, MECHANICAL EQUIPMENT, AND MECHANICAL PIPING.

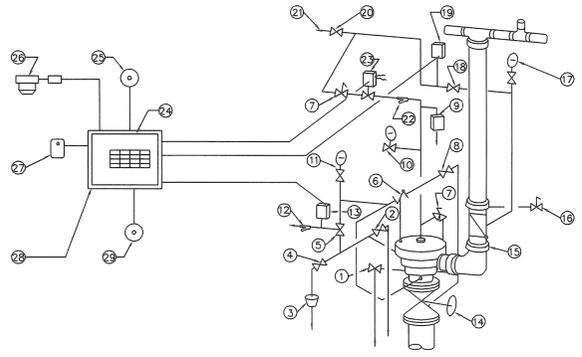
CONFIRM ALL REQUIREMENTS WITH THE VA CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE.

FLOW TEST DATA

LOCATION	HYDRANT # 3
TEST PERFORMED BY:.....	LIFEGUARD FIRE PROTECTION
DATE:.....	JUNE 2011
STATIC PRESSURE.....	80 PSI
RESIDUAL PRESSURE.....	50 PSI
FLOW.....	1090 GPM

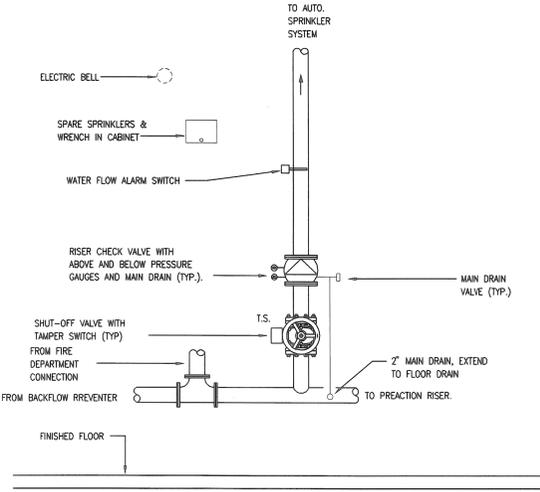
SPRINKLER HEAD TEMPERATURE RATINGS

MAX. CEILING TEMP	HEAD TEMP RATING	TEMPERATURE CLASSIFICATION
100°	135°-170°	ORDINARY
150°	175°-225°	INTERMEDIATE
225°	250°-300°	HIGH



SYSTEM COMPONENT SCHEDULE

1. TEST DRAIN VALVE	16. SYSTEM MAIN DRAIN VALVE
2. AUXILIARY DRAIN VALVE	17. SYSTEM PRESSURE GAUGE & VALVE
3. DRAIN CUP	18. SOFT SEAT CHECK VALVE
4. DRIP CHECK	19. AIR SUPERVISORY PRESSURE SWITCH
5. ALARM TEST SHUT-OFF VALVE	20. AIR SUPPLY CONTROL VALVE
6. STRAINER ORIFICE CHECK VALVE	21. DRY SYSTEM AIR SUPPLY
7. PRESSURE OPERATED RELIEF VALVE	22. STRAINER
8. PRIMING VALVE	23. SOLENOID VALVE
9. EMERGENCY RELEASE	24. CONTROL PANEL
10. PRIMING PRESSURE GAUGE & VALVE	25. ALARM BELL
11. WATER SUPPLY PRESSURE GAUGE & VALVE	26. CROSS ZONE (SMOKE & HEAT DETECTORS)
12. WATER MOTOR ALARM (STRAINER IS REQ'D)	27. MANUAL EMERGENCY STATION
13. ALARM PRESSURE SWITCH	28. MASTER BOX
14. WATER SUPPLY CONTROL VALVE W/TAMPER SWITCH	29. TROUBLE BELL
15. RUBBER SEAT CHECK VALVE	



F5 WET PIPE RISER DETAIL
 NOT TO SCALE

F1 SINGLE INTERLOCKED PRE-ACTION SPRINKLER SYSTEM
 SCALE: NONE

REVISION NO.	REVISION DESCRIPTION	By	Date

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 HIGH PROJECT # 11015

Recommended Approvals:	
1. MEDICAL DIRECTOR	6. OPERATIONS SERVICE LINE MANAGER
2. ASSOCIATE DIRECTOR	7. INFECTION CONTROL MANAGER
3. CHIEF OF STAFF	8. SAFETY MANAGER
4. ASSOC. DIRECTOR	9. GENERAL ENGINEER
5. SERVICE LINE MGRS.	10. COTR

Drawing Title	Project Title	Date
FIRE PROTECTION LEGEND, NOTES AND DETAIL	REPLACE BOILER PLANT/ COGEN/CHP	APRIL 30, 2012
BUILDING IS FULLY SPRINKLERED	Drawn LDR	Project Number 544-11-101
Checked	Building Number 21	AutoCAD File Name
Reviewed	Const. Contract No.	DRAWING No. FX001

Veterans Affairs

100% CONSTRUCTION DOCUMENTS