

FULLY SPRINKLERED

FIRE SUPPRESSION DESIGN NOTES

- A PROVIDE A COMPLETE FIRE SUPPRESSION SPRINKLER SYSTEM IN THE RENOVATED AREAS.
- B COORDINATE WORK WITH VAMC, PHASING PLAN AND OTHER TRADES. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR OFFSETTING AND/OR RELOCATING EXISTING SERVICES TO ACCOMMODATE NEW WORK OF OTHER TRADES.
- C DESIGN SERVICES SHALL FOLLOW ALL VA STANDARD DESIGN PRACTICES. DETAILS, SPECIFICATIONS AND SITE SPECIFIC OR REQUIREMENTS AS WELL AS WORK SHOWN ON THESE DOCUMENTS. ALL DEVIATIONS FROM AFOREMENTIONED REQUIREMENTS SHALL BE APPROVED BY THE COR.
- D VERIFY THAT THERE IS ADEQUATE SPACE TO INSTALL ALL NEW PIPING REQUIRED TO COMPLETE THIS WORK.
- E ALL SPRINKLER PIPING IS LOCATED ABOVE THE CEILING (AT THE BOTTOM OF STRUCTURE IN EXPOSED STRUCTURAL AREAS) UNLESS OTHERWISE INDICATED.
- F THE BASIS OF DESIGN OF SPACING AND SIZING FOR THE COMPLETE FIRE SUPPRESSION SPRINKLER SYSTEM IS FOR A WET PIPE PIPE SYSTEM HYDRAULICALLY CALCULATED FOR A:
 - 1 LIGHT HAZARD AREA LIMITED TO A MAXIMUM OF 225 SQ. FT. PER SPRINKLER WITH THE DENSITY OF 1.0 GPM / SQ. FT. OVER THE MOST REMOTE 1500 SQ. FT. PROVIDE AN ADDITION OF 100 GPM HOSE ALLOWANCE.
 - 2 ALL MECHANICAL, ELECTRICAL AND SIMILAR SPACE AREAS SHALL BE ORDINARY HAZARD (GROUP 1) LIMITED TO A MAXIMUM OF 130 S. FT. PER SPRINKLER WITH A DENSITY OF 0.15 GPM / SQ. FT. PROVIDE AN ADDITION OF 250 GPM HOSE ALLOWANCE.
 - 3 STORAGE, TRASH, FILE STORAGE AND SIMILAR SPACE AREAS SHALL BE ORDINARY HAZARD (GROUP 2) LIMITED TO A MAXIMUM OF 100 SQ. FT. PER SPRINKLER WITH A DENSITY OF 0.20 GPM / SQ. FT. PROVIDE AN ADDITION OF 250 GPM HOSE ALLOWANCE.
- G ALL SPRINKLER LOCATIONS AND RELATED PIPING SHALL BE BY THE DIVISION 21 CONTRACT.
- H THE ENTIRE SPRINKLER SYSTEM SHALL CONFORM TO VAMC, LOCAL, STATE AND NFPA STANDARDS, RULES AND REGULATIONS.
- I THE DIVISION 21 CONTRACT SHALL CAREFULLY COORDINATE THE LOCATION OF ALL SPRINKLERS AND PIPING WITH ALL OTHER TRADES AND THE ARCHITECT.
- J THE DIVISION 21 CONTRACT SHALL VERIFY THE LOCATION OF ALL LIGHTING FIXTURES AND AIR DEVICES BEFORE INSTALLATION OF SPRINKLERS.
- K ALL SPRINKLER PIPING LAYOUT AND SIZING SHALL BE BY THE DIVISION 21 CONTRACT.
- L ALL SPRINKLER LOCATIONS MUST BE COORDINATED WITH ALL EQUIPMENT KINDRED TO OTHER TRADES. SPRINKLER LOCATIONS MUST BE APPROVED BY THE ARCHITECT BEFORE WORK COMMENCES. REFER TO ARCHITECTURAL AND REFLECTIVE CEILING PLANS FOR ADDITIONAL INFORMATION ON ALL CEILING TYPES, HEIGHTS AND OTHER ARCHITECTURAL FEATURES.
- M THE DIVISION 21 CONTRACT SHALL MAKE NECESSARY FLOW TEST, LAY OUT SYSTEMS, OBTAIN APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION PRIOR TO BEGINNING AND FABRICATION OR INSTALLATION WORK.
- N SPRINKLER PIPING SHALL BE MINIMUM 1" SIZE.
- O SPRINKLERS (UNLESS OTHERWISE NOTED):
EXPOSED AREAS - UPRIGHT OR PENDENT TYPE - STANDARD BRASS
CEILING AREAS - RECESSED PENDENT TYPE
ALL SPRINKLERS SHALL BE UL LISTED AND FM APPROVED FOR QUICK RESPONSE.
- P SPRINKLERS SHALL BE "QUICK RESPONSE" TYPE IN ALL AREAS EXCEPT HIGH TEMPERATURE AREAS.
- Q ALL PENDENT TYPE SPRINKLERS LOCATED IN SUSPENDED CEILING TILE AREAS SHALL BE LOCATED IN THE CENTER OF THE CEILING TILE.
- R ANNUAL SPACE AT PIPE AND OTHER SIMILAR PENETRATION OF FIRE RATED ASSEMBLIES SHALL BE FIRESUPPED. REFER TO SPECIFICATION SECTION 07 84 00 FIRESUPPING, REFER TO ARCHITECTURAL DRAWINGS FOR CONSTRUCTION LAYOUT AND FIRE RATINGS OF FLOORS, WALLS, PARTITIONS AND OTHER BUILDING ELEMENTS.
- S REFER TO SPECIFICATION SECTION 21 13 13 FOR FLOW TEST INFORMATION.
- T ALL NEW SPRINKLER ZONES SHALL MATCH SMOKE COMPARTMENTS.
- U REFER TO ARCHITECTURAL DRAWINGS FOR INFORMATION ON SMOKE COMPARTMENTS, SMOKE PARTITIONS AND FIRE BARRIERS.
- V PHASING: REFER TO ARCHITECTURAL DRAWINGS FOR AN OUTLINE OF PROJECT PHASING. ADDITIONAL NOTES DESCRIBING PHASING DETAILS ARE INCLUDED THROUGHOUT THE DRAWING SET.

INDEX OF DRAWINGS - FIRE SUPPRESSION	
Sheet Number	Sheet Name
FX001	LEGEND, SYMBOLS & INDEX OF DRAWINGS
FX102	PARTIAL SECOND FLOOR PLAN - FIRE SUPPRESSION

NOTE: ALL SYMBOLS AND ABBREVIATIONS ARE SUBJECT TO MODIFICATIONS ON OTHER DRAWINGS.

ALL SYMBOLS OR ABBREVIATIONS MIGHT NOT NECESSARILY BE USED ON THIS PROJECT.

VALVES AND FITTINGS

DOUBLE LINE	SINGLE LINE	DESCRIPTION
		CHECK VALVE
		BALL VALVE
		BUTTERFLY VALVE
		GATE VALVE
		COMBINATION SHUTOFF AND BALANCING VALVE (REFER TO SPECIFICATIONS FOR REQUIRED TYPE BASED ON APPLICATIONS)
		CONCENTRIC PIPE REDUCER
		ECCENTRIC PIPE REDUCER
		PRESSURE GAUGE
		TEMPERATURE GAUGE OR THERMOMETER
		UNION
		CLEANOUT
		STRAINER
		STRAINER WITH A BLOW DOWN VALVE AND HOSE CONNECTION
		DRAIN VALVE WITH HOSE END CONNECTION
		AUTOMATIC FLOW CONTROLLER WITH P/T PLUG IN AND OUT
		EXPANSION JOINT
		PRESSURE REGULATING VALVE
		SAFETY RELIEF VALVE, PIPE DISCHARGE AIR GAPPED TO FLOOR DRAIN UNLESS NOTED OTHERWISE
		PRESSURE AND TEMPERATURE SAFETY RELIEF VALVE, PIPE DISCHARGE AIR GAPPED TO FLOOR DRAIN UNLESS NOTED OTHERWISE
		PRESSURE AND TEMPERATURE TEST PLUG
		TRAP PRIMER
		VACUUM GAUGE WITH STOP
		CLEANOUT TO GRADE OR FINISHED FLOOR
		END CAP
		MIXING FAUCET
		PLUG
		HOSE BIB
		WALL HYDRANT
		PLUG VALVE
		SHUTOFF VALVE AND BOX
		SHUTOFF VALVE ON RISER
		SOLENOID VALVE
		WATER METER

PLUMBING AND FIRE SUPPRESSION PIPING DESIGNATIONS

	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
	EXISTING PIPE TO REMAIN
	EXISTING PIPE TO BE REMOVED
	HOT WATER PIPE (140 DEGS. F.)
	HOT WATER PIPE (180 DEGS. F.)
	HOT WATER RETURN PIPE (140 DEGS. F.)
	HOT WATER RETURN PIPE (180 DEGS. F.)
	ARGON PIPE
	ACID VENT PIPE
	ACID WASTE PIPE
	COMPRESSED AIR PIPE
	MEDICAL CARBON DIOXIDE PIPE
	COMBINATION FIRE SUPPRESSION AND DOMESTIC WATER SERVICE
	DIESEL FUEL PIPE
	SPRINKLER PIPE (DRY)
	FIRE SUPPRESSION (STANDPIPE / SPRINKLER MAIN)
	FIRE SERVICE
	FUEL OIL FLOW LINE
	FUEL OIL GAUGE LINE
	FUEL OIL RETURN LINE
	FUEL OIL SUPPLY LINE
	NATURAL GAS PIPE
	GARAGE DRAINAGE PIPE
	GAS SERVICE
	HYDROGEN PIPE
	HELIUM PIPE
	MEDICAL INSTRUMENT AIR PIPE
	INDIRECT VENT PIPE
	INDIRECT WASTE PIPE
	KITCHEN WASTE PIPE
	LABORATORY COMPRESSED AIR PIPE
	LABORATORY VACUUM PIPE
	LABORATORY VENT PIPE
	LABORATORY WASTE PIPE
	MEDICAL COMPRESSED AIR PIPE
	MEDICAL SURGICAL VACUUM PIPE
	MEDICAL NITROGEN PIPE
	GASOLINE PIPE (NON-LEAD)
	MEDICAL NITROUS OXIDE PIPE
	NON-POTABLE
	MEDICAL OXYGEN PIPE
	(OVERFLOW) SECONDARY STORM DRAINAGE PIPE
	PROPANE GAS PIPE
	PUMP DISCHARGE PIPE
	PRE-ACTION / DELUGE SPRINKLER PIPE
	PURE WATER PIPE
	SPRINKLER PIPE (WET)
	SANITARY DRAINAGE PIPE
	SOFT COLD WATER
	SPRINKLER DRAIN PIPE
	STORM DRAINAGE PIPE
	FUEL TANK VENT PIPE
	TRAP PRIMER DISCHARGE PIPE
	TEMPERED WATER PIPE
	SANITARY SEWER VENT
	WASTE ANESTHESIA GAS DISPOSAL PIPE
	WATER SERVICE

GENERAL FLOOR PLAN NOTES

	APPROXIMATE DIMENSION ABOVE FINISHED FLOOR TO CENTERLINE OF PIPE, UNLESS NOTED OTHERWISE
	APPROXIMATE DIMENSION ABOVE FINISHED FLOOR TO TOP OR BOTTOM OF EQUIPMENT, UNLESS NOTED OTHERWISE
	RISER OR STACK NUMBER
	DETAIL: B = DETAIL DESIGNATION P2 = SHEET WHERE DETAIL IS LOCATED
	SECTION: 1 = SECTION DESIGNATION P2 = SHEET WHERE DETAIL IS LOCATED
	FIRE SUPPRESSION HAZARD CLASSIFICATION AND HAZARD CLASSIFICATION GROUP
	EQUIPMENT REFERENCE. LETTER DESIGNATION VARIES. REFER TO SCHEDULES.
	EQUIPMENT, DEVICE OR PLUMBING FIXTURE MARK. LETTER DESIGNATIONS REFER TO SCHEDULES.
	CONNECT TO EXISTING
	PLAN NOTE. APPLIES ONLY TO THE SHEET WHICH IT IS SHOWN UNLESS NOTED OTHERWISE.
	DETAIL NOTE. APPLIES ONLY TO THE ASSOCIATED DETAIL.
	"UP TO" SYMBOL (ITEM ON FLOOR ABOVE)

FIRE SUPPRESSION SYMBOLS

DOUBLE LINE	SINGLE LINE	DESCRIPTION
		CONCEALED PENDENT SPRINKLER
		FIRE DEPARTMENT VALVE
		FIRE HYDRANT
		FIRE SWITCH
		GATE VALVE OSSY
		INSTITUTIONAL PENDENT SPRINKLER
		PENDENT SPRINKLER
		POST INDICATOR VALVE
		RECESSED PENDENT SPRINKLER
		SIDE WALL SPRINKLER
		SUPERVISED VALVE
		UPRIGHT SPRINKLER

PIPING SYMBOLS

DOUBLE LINE	SINGLE LINE	DESCRIPTION
		BOTTOM CONNECTION (45°)
		BOTTOM CONNECTION (90°)
		BRANCH TEE CONNECTION (NOTE: BULL HEAD TEES ARE NOT PERMITTED.)
		DIRECTION OF PITCH
		DROP
		ELBOW DOWN
		ELBOW UP
		EXISTING PIPE TO BE REMOVED
		EXISTING PIPE TO REMAIN
		FLOW DIRECTION DESIGNATION
		PIPE RISER
		PUMP
		RISE
		TOP CONNECTION (45°)
		TOP CONNECTION (90°)

SPECIALTY GAS SYMBOLS

	AIR OUTLET - LAB TYPE
	CARBON DIOXIDE OUTLET - HOSPITAL TYPE
	MEDICAL AIR OUTLET - HOSPITAL TYPE
	MEDICAL VACUUM INLET - HOSPITAL TYPE
	NATURAL GAS OUTLET - LAB TYPE
	NITROGEN OUTLET - HOSPITAL TYPE
	NITROUS OXIDE OUTLET - HOSPITAL TYPE
	OXYGEN OUTLET - HOSPITAL TYPE
	VACUUM CLEANING STATION - FLOOR
	VACUUM CLEANING STATION - WALL
	VACUUM OUTLET - LAB TYPE
	WAGD INLET - HOSPITAL TYPE

ABBREVIATIONS

AAP - AREA ALARM PANEL (MEDICAL GAS)	FOF - FUEL OIL FLOW	OZ - MEDICAL OXYGEN
AC - AIR COMPRESSOR OR AIR CONDITIONER	FOG - FUEL OIL GAUGE	OD - OUTDOOR AIR
ACC - ACCESS	FOR - FUEL OIL RETURN	OD - OWNER FURNISHED CONTRACTOR INSTALLED
ACCU - AIR COOLED CONDENSING UNIT	FOS - FUEL OIL SUPPLY	OFCI - OWNER FURNISHED OWNER INSTALLED
AD - ACCESS DOOR OR AREA DRAIN	FOT - FLAT ON TOP	OFOI - OWNER FURNISHED OWNER INSTALLED
ADJ - ADJUSTABLE	FPM - FEET PER MINUTE	
ADB - ACID DILUTION BASIN	FR - FIRE RISER	
AF - ABOVE FINISHED FLOOR	FS - FLOOR SINK OR FIRE SERVICE	
ARG - ABOVE FINISHED GRADE	FSC - FIRE SUPPRESSION CONTRACTOR (DIVISION 21)	
ALT - ALTERNATE	FT - FEET	
AP - ACCESS PANEL	FTG - FOOTING	
APPROX - APPROXIMATE		
AR - AIR RECIPIER OR ARGON	G - GAS OR NATURAL GAS	
ARCH - ARCHITECT OR ARCHITECTURAL	GA - GAUGE	
ASSY - ASSEMBLY	GAL - GALLON	
AV - ACID VENT	GALV - GALVANIZED	
AW - ACID WASTE	GC - GENERAL TRADES CONTRACTOR	
	GD - GARAGE DRAINAGE	
	GPM - GALLONS PER MINUTE	
	GS - GAS SERVICE	
	GW - GREASE WASTE	
BDD - BACK DRAFT DAMPER	H2 - HYDROGEN	
BPF - BACKFLOW PREVENTER	HB - HOSE BIB	
BLDG - BUILDING	HC - HVAC CONTRACTOR (DIVISION 23)	
BOB - BOTTOM OF BEAM	HD - HUB DRAIN	
BOB - BOTTOM OF DUCT	HE - HELIUM	
BOE - BOTTOM OF EQUIPMENT	HG - REFRIGERANT HOT GAS	
BOF - BOTTOM OF FOOTING	HP - HORSEPOWER OR HIGH POINT	
BOG - BOTTOM OF GRILLE	HPC - HIGH PRESSURE CONDENSATE RETURN	
BOP - BOTTOM OF PIPE	HPS - HIGH PRESSURE STEAM SUPPLY	
BT - BOTTOM	HP - HIGH PURITY WATER SUPPLY	
BTU - BRITISH THERMAL UNIT	HPWR - HIGH PURITY WATER RETURN	
BTUH - BRITISH THERMAL UNIT PER HOUR	HR - HOSE REEL	
BTWN - BETWEEN	HT - HEAT TRACE	
CA - COMPRESSED AIR	HTR - HEATER	
CB - CATCH BASIN	HW - HEATING, VENTILATING, AND AIR CONDITIONING	
CBD - COUNTER BALANCED BACKDRAFT DAMPER	HWC - HEATING, VENTILATING, AND AIR CONDITIONING	
CFC - CONTRACTOR FURNISHED CONTRACTOR INSTALLED	IV - INDIRECT VENT	
CFM - CUBIC FEET PER MINUTE	IW - INDIRECT WASTE	
CHS - CHILLED WATER SUPPLY	J - JANITOR SINK	
CHR - CHILLED WATER RETURN	JK - JANITOR SINK	
CI - CAST IRON	K - KITCHEN WASTE	
CK - CLINICAL SINK	KEC - KITCHEN EQUIPMENT CONTRACTOR	
CLG - CEILING	KEC - KITCHEN EQUIPMENT CONTRACTOR	
CMU - CONCRETE MASONRY UNIT	L - LENGTH	
CO - CLEAN OUT	LA - LABORATORY COMPRESSED AIR	
CO2 - MEDICAL CARBON DIOXIDE	LAV - LAVATORY	
CONN - CONNECT OR CONNECTION	LBS - POUNDS	
CONTR - CONTRACTOR	LOW - LABORATORY COLD WATER	
CORR - CORRIDOR	LEC - LABORATORY EQUIPMENT CONTRACTOR	
CS - CLINICAL SINK OR COLD SOFT WATER	LHW - LABORATORY HOT WATER	
CUR - CENTER	LHWR - LABORATORY HOT WATER RETURN	
CU - COPPER	LPC - LOW PRESSURE CONDENSATE RETURN	
CW - COLD WATER	LPS - LOW PRESSURE STEAM SUPPLY	
CWS - COMBINATION WATER SERVICE OR CONDENSER WATER SUPPLY	LQ - LABORATORY VACUUM OR LABORATORY VENT	
CWR - CONDENSER WATER RETURN	LW - LABORATORY WASTE	
	MA - MEDICAL COMPRESSED AIR	
D - DEPTH OR DRAIN LINE	MAP - MASTER ALARM PANEL (MEDICAL GAS)	
DD - DECK DRAIN	MAX - MAXIMUM	
DET - DETAIL	MB - MOP BASIN	
DF - DRINKING FOUNTAIN OR WATER COOLER	MC - MECHANICAL CONTRACTOR (DIVISION 23)	
DF - OR DIESEL FUEL	MEZZ - MEZZANINE	
DFU - DRAINAGE FIXTURE UNIT	MFR - MANUFACTURER	
DI - DESIGNATED WATER	MH - MANHOLE	
DIA - DIAMETER	MIN - MINIMUM OR MINUTE	
DI - DIMENSION	MISC - MISCELLANEOUS	
DN - DOWN	MTD - MOUNTED	
DS - DOWN SPOUT OR SPRINKLER (DRY)	MTG - MOUNTING	
DT - PERFORATED DRAIN TILE	MPC - MEDIUM PRESSURE CONDENSATE RETURN	
DWG - DRAWING	MPS - MEDIUM PRESSURE STEAM SUPPLY	
	MV - MEDICAL SURGICAL VACUUM	
EA - EACH	N2 - MEDICAL NITROGEN	
EC - ELECTRICAL CONTRACTOR (DIVISION 26)	NG - GASOLINE (NON-LEAD)	
EEW - EMERGENCY EYE WASH	NO - NOT IN CONTRACT	
EJ - EXPANSION JOINT	NO - MEDICAL NITROUS OXIDE	
ELEC - ELECTRICAL	NOM - NOMINAL	
ELEV - ELEVATOR	NPW - NON-POTABLE WATER	
EQ - EQUIP	NPT - NATIONAL PIPE THREAD	
ET - EXPANSION TANK	NTS - NOT TO SCALE	
EX - EXISTING TO REMAIN		
ES - EMERGENCY SHOWER		
EQS - EQUIPMENT SUPPLIER		
EWG - ELECTRICAL WATER COOLER		
EXH - EXHAUST AIR		
EXP - EXPANSION		
EXT - EXTERIOR		
EX - EXISTING		
F - FIRE SUPPRESSION (STANDPIPE/SPRINKLER MAIN)		
FCE - FIRE CONTROL EQUIPMENT		
FCD - FLOOR CLEANOUT		
FD - FLOOR DRAIN		
FDC - FIRE DEPARTMENT CONNECTION		
FDE - FIRE DEPARTMENT VALVE		
FF - FINISHED FLOOR ELEVATION		
FHG - FIRE HOSE CABINET		
FLR - FLOOR		
FM - FORCE MAIN		
FOB - FLAT ON BOTTOM		

LEGEND, SYMBOLS & INDEX OF DRAWINGS

Drawing Title	Project Title
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