



PLUMBING SYMBOL LEGEND

ABBREVIATIONS		PIPING SYMBOLS		
		SYMBOL	ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	---	AV	ACID VENT
AFG	ABOVE FINISHED GRADE	---	AW	ACID WASTE
ANT	ACID NEUTRALIZING TANK	---	CA	COMPRESSED AIR
AVTR	ACID RESISTANT VENT THROUGH ROOF	---	CND	CONDENSATE DRAIN
B.C	BALANCING COCK	---	DCW	DOMESTIC COLD WATER
BOP	BOTTOM OF PIPE	---	DHW	DOMESTIC HOT WATER
BTU	BRITISH THERMAL UNIT	---	DHWR	DOMESTIC HOT WATER RETURN
BTUH	BTU PER HOUR	---	DHW 140°F	140° DOMESTIC HOT WATER
CWB	CLOTHES WASHER BOX	---	DHWR 140°F	140° DOMESTIC HOT WATER RETURN
CFH	CUBIC FEET PER HOUR	---	ROS	REVERSE OSMOSIS SUPPLY
CO	CLEANOUT	---	ROR	REVERSE OSMOSIS RETURN
COTG	CLEANOUT TO GRADE	---	MU	MAKE-UP WATER
CP	CIRCULATION PUMP	---	NPW	NON-POTABLE WATER
CQV	COMBINATION WASTE AND VENT	---	V	VENT
DCO	DOUBLE CLEANOUT	---	DIS	DEIONIZED WATER SUPPLY
DCOTG	DOUBLE CLEANOUT TO GRADE	---	DIR	DEIONIZED WATER RETURN
DF	DRINKING FOUNTAIN	---	SAN	SANITARY SEWER
DN	DOWN	---	RD	STORM/ROOF DRAIN
DS	DOWNSPOUT	---	ORD	OVERFLOW ROOF DRAIN
EL	ELEVATION	---	LPC	LIQUIFIED PETROLEUM GAS
EW	ELECTRIC WATER HEATER	---	G	NATURAL GAS-LOW PRESSURE
EWC	ELECTRIC WATER COOLER	---	NGM	NATURAL GAS-MEDIUM PRESSURE
EEW	EMERGENCY EYEWASH	---	NGH	NATURAL GAS-HIGH PRESSURE
ES	EMERGENCY SHOWER	---	OV	GAS VENT
ESEW	EMERGENCY SHOWER EYE WASH	---	IRR	IRRIGATION
°F	DEGREES FAHRENHEIT	---	SCW	SOFT COLD WATER
FCO	FLOOR CLEANOUT	---	SHW	SOFT HOT WATER
FFE	FINISHED FLOOR ELEVATION	---	TWR (---)	TEMPERED WATER RETURN (TEMP °F)
FT	FEET	---	TW (---)	TEMPERED WATER (TEMP °F)
FOS	FUEL OIL SUPPLY	---	PD	PUMPED DISCHARGE LINE
FOR	FUEL OIL RETURN	---	ICW	INDUSTRIAL COLD WATER
FOV	FUEL OIL VENT	---	IHW	INDUSTRIAL HOT WATER
FV	FLUSH VALVE	---	IHW	INDUSTRIAL HOT WATER RETURN
GD	GUTTER DRAIN	---	INW	INDUSTRIAL WASTE
GI	GREASE INTERCEPTOR	---	IA	INSTRUMENT COMPRESSED AIR
GPH	GALLONS PER HOUR	---	IW	INDIRECT WASTE
GPM	GALLONS PER MINUTE	---	LA	LAB COMPRESSED AIR
GW	GAS FIRED WATER HEATER	---		DIRECTION OF FLOW
HB	HOSE BIBB	---		PIPE ANCHOR
HD	HEAD	---		PIPE GUIDE
HP	HORSEPOWER	---		REDUCER OR INCREASER
IN	INCHES	---		ECCENTRIC REDUCER
INV	INVERT	---		TOP CONNECTION 45° OR 90°
KW	KILOWATT	---		BOTTOM CONNECTION 45° OR 90°
MBh	1,000 BTUH	---		SIDE CONNECTION
MV	MIXING VALVE	---		CAPPED OUTLET
NA	NOT APPLICABLE	---		DROP IN PIPE
NIC	NOT IN CONTRACT	---		RISE IN PIPE
No. #	NUMBER	---		UNION
N.C.	NORMALLY CLOSED	---		FLANGED UNION
N.O.	NORMALLY OPEN	---		ORIFICE UNION
OS&Y	OUTSIDE SCREW AND YOKE	---		UNIVERSAL TEMPERATURE-PRESSURE
P-1	PLUMBING FIXTURE SYMBOL	---		FITTING (PETE'S PLUG)
Ph	PHASE	---		FLEXIBLE CONNECTION
ph	POTENTIAL FOR HYDROGEN	---		NEW PIPING
PSIG	POUNDS PER SQUARE INCH GAGE	---		EXISTING PIPING TO REMAIN
SP	STATIC PRESSURE	---		EXISTING PIPE TO BE DEMOLISHED
TD	TRENCH DRAIN	---		NEW PIPE CONNECTION TO EXISTING PIPING
TYP	TYPICAL	---		
YB	YARD BOX	---		
YH	YARD HYDRANT	---		
WCO	WALL CLEANOUT	---		
WC	WATER CLOSET	---		

VALVE SYMBOLS		
SYMBOL		DESCRIPTION
---	---	GATE VALVE
---	---	SOLENOID VALVE
---	---	OS&Y VALVE
---	---	GLOBE VALVE
---	---	BUTTERFLY VALVE
---	---	BALL VALVE
---	---	CHECK VALVE
---	---	PLUG VALVE
---	---	BALANCING VALVE/CIRCUIT SETTER MEASURING DEVICE
---	---	WATER PRESSURE REDUCING VALVE
---	---	FUEL GAS PRESSURE REGULATOR
---	---	PRESSURE RELIEF VALVE
---	---	TEMPERATURE AND PRESSURE RELIEF VALVE
---	---	DRAIN VALVE
---	---	2-WAY CONTROL VALVE
---	---	3-WAY MODULATING CONTROL VALVE
---	---	FLOW SWITCH
---	---	DIAPHRAGM (PROCESS SYSTEMS)
---	---	AUTO BALL DRIP VALVE
---	---	VALVE IN VERTICAL
---	---	REDUCED PRESSURE BACKFLOW PREVENTER (RPBP)
---	---	DOUBLE CHECK BACKFLOW PREVENTER (DCBP)
---	---	DOUBLE DETECTOR CHECK ASSEMBLY (DDCA)
---	---	ATMOSPHERIC VACUUM BREAKER
---	---	PRESSURE STYLE VACUUM BREAKER

MEDICAL GAS SYMBOLS		
SYMBOL	ABBREVIATION	DESCRIPTION
---	MA	MEDICAL AIR
---	MV	MEDICAL VACUUM
---	O	OXYGEN
---	WAGO	WASTE ANESTHESIA GAS DISPOSAL
---		EXISTING PIPING
---		ALARM PANEL (IN WALL)
---		MEDICAL VALVE BOX
---		MEDICAL GAS PIPE DROP
---	P	PRESSURE SENSOR

SECTION SYMBOL		
---	A1	SECTION LETTER & NUMBER
---	(P-100)	DRAWING NUMBER WHERE DETAILED

DETAIL SYMBOL		
---	A1	DETAIL LETTER & NUMBER
---	(P-500)	DRAWING NUMBER WHERE DETAILED

SECTION, ELEVATION, AND DETAIL TITLES		
SECTION LETTER	A	SECTION
DRAWING NUMBER WHERE DETAILED	(P-300)	SCALE
DETAIL NUMBER	1	DETAIL
DRAWING NUMBER WHERE DETAILED	(P-500)	SCALE
ELEVATION LETTER	A	ELEVATION
DRAWING NUMBER WHERE DETAILED	(P-200)	SCALE

SCHEMATIC SYMBOLS		
---	TP	TRAP PRIMER WITH ACCESS PANEL
---		SLOPE OF PIPE
---	VTR	VENT THROUGH ROOF
---	AG	AIR GAP FITTING
---	(WH) (HB)	WALL HYDRANT, HOSE BIBB

NOTE: NOT ALL ABBREVIATIONS OR SYMBOLS APPLY TO THIS PROJECT

DEMOLITION
GENERAL NOTES

- A. ALL EQUIPMENT, PIPES, SPECIALTIES, ETC., SHALL BE REMOVED WHERE INDICATED WITH AN "X" OR LISTED TO BE REMOVED PER DEMOLITION PLANS.
- B. CONTRACTOR SHALL COORDINATE UTILITY OUTAGES WITH THE OWNERS AND USERS AT AFFECTED LOCATIONS. CONTRACTOR SHALL GIVE USER MINIMUM OF 2 WEEKS NOTICE PRIOR TO UTILITY OUTAGES.
- C. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE REMOVAL OF ALL ITEMS RELATED TO PLUMBING FIXTURES, WASTE, VENT, COLD WATER, HOT WATER, ROOF DRAIN PIPING, OXYGEN, VACUUM, COMPRESSED AIR, GAS PIPING AND MEDICAL OUTLETS (GAS, OXYGEN, VACUUM AND COMPRESSED AIR) ABOVE THE FLOOR AND WITHIN THE INTERSTITIAL SPACE (AND BELOW THE FLOOR WHERE DIRECTED BY THE ARCHITECT OR OWNER) WITHIN THE CONFINES OF THE BUILDING TO FACILITATE ANY REMOVAL WORK.
- D. PATCH TO MATCH EXISTING HOLES IN WALLS, FLOORS AND CEILINGS AS A RESULT OF DEMOLITION WORK.

PLUMBING
GENERAL NOTES

- A. REMOVE AND DISPOSE OF ALL DEMOLISHED PIPE, EQUIPMENT AND DEBRIS RELATED TO SPECIFIC TRADE WORK.
- B. ALL PIPING IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN FURRED CHASES OR SUSPENDED CEILINGS, UNLESS OTHERWISE NOTED.
- C. PROVIDE ACCESS PANELS OR DOORS IN INACCESSIBLE CEILINGS AND/OR CHASES FOR ALL VALVES, TRAPS, CLEANOUTS, ETC. THEY SHALL BE FURNISHED UNDER DIVISION 22 AND INSTALLED UNDER THE ARCHITECTURAL SPECIFICATION. ACCESS DOOR RATING SHALL MATCH CLASSIFICATION OF WALL AND CEILING FIRE RATING.
- D. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL FIRE RATED AND/OR SMOKE RATED WALLS AND ASSEMBLIES. PROVIDE ALL PIPING PENETRATIONS OF FIRE, SMOKE AND FULL HEIGHT WALLS SHALL BE CAULKED AIRTIGHT TO THE ADJACENT STRUCTURE BY MEANS OF U.L. APPROVED FIRE PROOF CAULKING MATERIAL.
- E. CONTRACTOR SHALL COORDINATE ALL PLUMBING WITH ALL TRADES AND SHALL PROVIDE NECESSARY OFFSETS TO AVOID CONFLICTS AND TO MAINTAIN REQUIRED EQUIPMENT ACCESS AND SERVICEABILITY.
- F. CONTRACTOR SHALL FURNISH ALL NECESSARY STRUCTURES, INSERTS, SLEEVES, AND HANGING DEVICES TO ADEQUATELY SUPPORT PLUMBING PIPING AND PLUMBING EQUIPMENT. CONTRACTOR SHALL COORDINATE WITH ALL BUILDING TRADES TO AVOID CONFLICTS AND TO MAINTAIN REQUIRED EQUIPMENT ACCESS AND SERVICEABILITY. CONTRACTOR SHALL NOT OVERLOAD THE BUILDING STRUCTURAL SYSTEM.
- G. PLUMBING VENTS SHALL BE LOCATED AND ARRANGED IN ACCORDANCE WITH THE 2009 INTERNATIONAL PLUMBING CODE AND SHALL BE CONNECTED TO EXISTING VENT SYSTEM.
- H. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR WALL AND PARTITION CONSTRUCTION AND THICKNESS WHERE PLUMBING PIPING, VALVES OR EQUIPMENT ARE INDICATED.
- I. PLUMBING FIXTURES SHALL BE INSTALLED AT HEIGHTS SHOWN ON ARCHITECTURAL PLANS. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ROUGH-IN LOCATIONS OF PLUMBING FIXTURES. THE CONTRACTOR SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF THE AE.
- J. ALL SEWER PIPE IN AND UNDER THE BUILDING SHALL BE SERVICE WEIGHT BELL AND SPIGOT CAST IRON. ALL ABOVE GROUND WASTE AND VENT PIPING SHALL BE NO-HUB CAST IRON.
- K. THE USE OF OFFSET CLOSET FLANGES IS PROHIBITED. THE CONTRACTOR SHALL RE-PIPE CLOSET BENDS IF ROUGH-IN WAS INACCURATE.
- L. THE ENTIRE MEDICAL GAS PIPE SYSTEM SHALL BE PRESSURE TESTED AS PER NFPA 99, AND PROVIDED TO BE LEAK-FREE PER NFPA 99, AND SPECIFICATION REQUIREMENTS. ALL COSTS TO CORRECT PIPE SHALL BE INCURRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- M. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF THE PIPING TO ALLOW ADEQUATE CLEARANCE OF LIGHTING FIXTURES AND DUCTWORK TO AVOID STRUCTURAL MEMBERS AND OTHER CEILING EQUIPMENT. THE CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES TO AVOID CONFLICTS IN THE CEILING SPACE.
- N. ALL PIPE PENETRATIONS THRU NON-RATED WALLS SHALL BE SLEEVED AND HAVE PIPE INSULATION RUN CONTINUOUS. PIPES THRU FIRE RATED WALLS SHALL BE CAULKED WITH FIRE STOP PER CODE. SLEEVES THRU CMU, CONCRETE, OR BRICK WALLS SHALL BE STEEL CONDUIT OR PIPE, AND THRU STRUCTURAL WALLS SHALL BE SCHEDULE 40 STEEL PIPE.
- O. ADA COMPLIANT WATER CLOSET HANDLES ON FLUSH VALVES SHALL BE ROUGHED IN WITH FLUSH HANDLES ON WIDE SIDE OF THE STALL. NON ADA WATER CLOSET AND URINAL FLUSH VALVES SHALL BE ROUGHED IN WITH HANDLES ON THE LEFT.
- P. INSTALL THREADED SHUT OFF VALVES AT ALL BRANCH LINES TO FIXTURES AND AT TAKEOFFS FROM MAINS.

MEDICAL GAS GENERAL NOTES:

- A. ALL WORK ON MEDICAL GAS AND VACUUM SYSTEMS SHALL BE INSTALLED, TESTED AND VERIFIED WITH ACCORDANCE WITH NFPA 99, STANDARD FOR HEALTH CARE FACILITIES.
- B. INSTALLERS OF MEDICAL GAS AND VACUUM SYSTEMS SHALL BE QUALIFIED, COMPETENT TECHNICIANS CERTIFIED IN ACCORDANCE WITH ANSI/ASSE STANDARD 8010, MEDICAL GAS SYSTEMS INSTALLERS PROFESSIONAL QUALIFICATION STANDARD.
- C. INSPECTION AND VERIFICATION TESTING OF MEDICAL GAS AND VACUUM SYSTEMS SHALL BE CONDUCTED BY A PARTY TECHNICALLY COMPETENT, EXPERIENCED AND CERTIFIED IN ACCORDANCE WITH ANSI/ASSE STANDARD 8030, MEDICAL GAS SYSTEM VERIFIERS PROFESSIONAL QUALIFICATION STANDARD. INSPECTION AND VERIFICATION TESTING SHALL BE PERFORMED BY A PARTY OTHER THAN THE INSTALLING CONTRACTOR. COORDINATE WITH THE FACILITY PREFERRED CONTRACTOR.
- D. PRIOR TO ANY WORK ON THE EXISTING MEDICAL GAS SYSTEMS, COORDINATE WITH THE COR.
- E. CONTRACTOR SHALL MAKE THE NEW PORTION OF THE GAS SYSTEM AVAILABLE TO THE CERTIFIER TO INSPECT THE INSTALLATION OF THE NEW MED GAS SYSTEM BEFORE CLOSING THE GYROBOARD WALLS/CEILING. CONTRACTOR SHALL COORDINATE WITH THE COR AND CERTIFIER FOR INSPECTION, TESTING AND CERTIFICATION OF THE NEW MEDICAL GAS INSTALLATION.
- F. INSTALL CAPS OR PLUG ON THE EXISTING PIPING SYSTEM WHERE PORTIONS OF PIPING WERE REMOVED AND STUBOUTS ARE NOT TO BE REUSED.
- G. NEW PIPING SHALL BE MARKED WITH FLOW ARROWS AND PROPERLY IDENTIFIED AS TO ITS SYSTEM WITH ACCORDANCE WITH NFPA 99. NEW VALVES SHALL BE LABELED IN ACCORDANCE WITH NFPA 99 TO REFLECT THE ROOMS THAT ARE CONTROLLED BY SUCH VALVE.
- H. OXYGEN AND VACUUM PIPING SHALL BE CONSTRUCTED OF SEAMLESS HARD DRAWN COPPER MEDICAL GAS TUBING CONFORMING TO ASTM B819. FITTINGS SHALL BE WROUGHT OR CAST COPPER CONFORMING TO ANSI B16.22 OR MSS SP-73. JOINTS SHALL BE MADE WITH SILVER BRAZING ALLOY. A DRY NITROGEN GAS OR OTHER APPROVED INERT GAS PURGE SHALL BE PROVIDED TO PREVENT OXIDE FORMATION INSIDE THE COPPER TUBING WHEN JOINTS ARE SILVER BRAZED.
- I. MEDICAL GAS OUTAGES WILL REQUIRE NOTICE FOR A PROPOSED OUTAGE. OUTAGES WILL BE SCHEDULED AFTER NORMAL WORKING HOURS OR ON WEEKENDS. ALL OUTAGES SHALL BE COORDINATED WITH THE COR.
- J. DURING TESTING AND PURGING, OXYGEN SHALL NOT BE VENTED DIRECTLY INTO ROOMS, CORRIDORS, AND AREAS UNLESS DIRECTLY MONITORED TO ENSURE THAT IT DOES NOT CREATE AN OXYGEN ENRICHED ATMOSPHERE.

COMPLETION ITEM NO. _____
FULLY SPRINKLERED