

PLUMBING ABBREVIATIONS

A	COMPRESSED AIR	MEP	MECHANICAL, ELECTRICAL & PLUMBING
AD	AREAWAY DRAIN	MGAAP	MEDICAL GAS AREA ALARM PANEL
AFF	ABOVE FINISHED FLOOR	MGC	MASTER GAS CONTROL
AFG	ABOVE FINISHED GRADE	MGLAP	MEDICAL GAS LOCAL ALARM PANEL
AHU	AIR HANDLING UNIT	MGMAP	MEDICAL GAS MASTER ALARM PANEL
AN	ACID NEUTRALIZATION TANK	MGBV	MEDICAL GAS VALVE BOX
AV	ACID VENT	MV	MEDICAL VACUUM
AVTR	ACID VENT THRU ROOF	N	NITROGEN
AW	ACID WASTE	NC	NOT IN CONTRACT
BFP	BACKFLOW PREVENTER DEVICE	NC	NORMALLY CLOSED
BOP	BOTTOM OF PIPE	NO	NORMALLY OPEN
BOS	BOTTOM OF STEEL	NP	NON-POTABLE WATER
BOF	BOTTOM OF FOOTING	OK	OXYGEN
BTU	BRITISH THERMAL UNIT	ORD	OVERFLOW ROOF DRAIN
BWV	BACKWATER VALVE	OST	OVERFLOW STORM
CFH	CUBIC FEET PER HOUR	OWO	OVERFLOW WALL OUTLET (STORM)
CO	CLEANOUT	P	FITCH
COND	CONDENSATE	PD	PUMPED DISCHARGE
CTE	CONNECT TO EXISTING	PRV	PRESSURE REDUCING VALVE
CV	CHECK VALVE	PSI	POUNDS PER SQUARE INCH
CW	COLD WATER	RD	ROOF DRAIN
DF	DRINKING FOUNTAIN	RO	REVERSE OSMOSIS WATER
DFU	DRAINAGE FIXTURE UNITS	RPD	REDUCED PRESSURE BACKFLOW PREVENTER
DI	DEIONIZED WATER	RT	RUNNING TRAP
DIR	DEIONIZED WATER RECIRCULATION	RTU	ROOF TOP UNIT
DIST	DISTILLED WATER	RWC	RAIN WATER CONDUCTOR
DN	DOWN	S	SOIL
EL	ELEVATION	SAN	SANITARY
EOSC	EMERGENCY OXYGEN SUPPLY CONNECTION	SF, SQ FT	SQUARE FEET
EWC	ELECTRIC WATER COOLER	SFU	SUPPLY FIXTURE UNITS
EWV	ELECTRIC WATER HEATER	SI	SOLIDS INTERCEPTOR
EX	EXISTING	SP	SUMP PUMP/SEWAGE PUMP
EXP	EXPANSION TANK	SS	SOIL STACK
FCO	FLOOR CLEANOUT	ST	STORM
FCU	FAN COIL UNIT	T&P	TEMPERATURE & PRESSURE RELIEF VALVE
FD	FLOOR DRAIN	TD	TRENCH DRAIN
FS	FLOOR SINK	TOF	TOP OF FOOTING
G	GAS (NATURAL)	TP	TRAP PRIMER
GI	GREASE INTERCEPTOR	TMV	THERMOSTATIC MIXING VALVE
GPM	GALLONS PER MINUTE	TW	TEMPERED OR TEPID WATER
GRU	GREASE RECOVERY UNIT	TWR	TEMPERED OR TEPID WATER RECIRCULATION
GSV	GAS SOLENOID VALVE	TYP	TYPICAL
GT	GREASE TRAP	UH	UNIT HEATER
GV	GAS VENT	UR	URINAL
GW	GREASE WASTE	V	VENT
HB	HOSE BIBB	VB	VACUUM BREAKER
HC	HANDICAPPED ACCESSIBLE	VF	VERIFY IN FIELD
HW	HOT WATER	VS	VENT STACK
HWR	HOT WATER RECIRCULATION	VTR	VENT THRU ROOF
INV	INVERT	V V	VAPOR VENT
IW	INDIRECT WASTE	W	WASTE
KW	KILOWATT	W&T	WASTE & TRAP
LA	LABORATORY AIR	W&V	WASTE & VENT
LAV	LAVATORY	WC	WATER CLOSET
LF	LINEAR FEET	WCO	WALL CLEANOUT
LPG	LIQUIFIED PETROLEUM GAS	WH	WALL HYDRANT
LV	LABORATORY VACUUM	WHA	WATER HAMMER ARRESTER
MA	MEDICAL AIR	WS	WASTE STACK
MBH	THOUSAND B.T.U. PER HOUR	YH	YARD HYDRANT
MEDGAS, MG	MEDICAL GAS		

AIR COMPRESSOR SCHEDULE

MARK	SERVICE	VOLTAGE	SCFM	DEW POINT	RECEIVER	OPER. WT. (LB.)	REMARKS
AC-1	LABORATORY AIR	460 / 60 / 3	30 TOTAL	-40°F	120 GALLON	?	2 (EA) 5 HP OIL LESS SCROLLS PACKAGED WITH DRYER

VACUUM PUMP SCHEDULE

MARK	SERVICE	VOLTAGE	SCFM @ 19"HG	RECEIVER	OPER. WT. (LB.)	REMARKS
VAC-1	LABORATORY VACUUM	460 / 60 / 3	17.0 EA	120 GALLON	?	ROTARY VANE DUPLEX UNIT

GAS PRESSURE REGULATOR SCHEDULE

MARK	SERVICE	CAPACITY	INLET PRESSURE	OUTLET PRESSURE	ORRIFICE SIZE	SPRING COLOR	REMARKS
GPR-1	NATURAL GAS	5212	5 PSI	7" w.c.	-	-	-

PLUMBING FIXTURE CONNECTION SCHEDULE

FIXTURE TYPE	HOT WATER	COLD WATER	WASTE OR SAN	VENT
WATER CLOSET (FLUSH VALVE)	---	1"	4"	2"
WATER CLOSET (TANK TYPE)	---	1/2"	3"	2"
URINAL	---	3/4"	2"	1 1/2"
LAVATORY	1/2"	1/2"	1 1/2"	1 1/2"
JANITOR MOP BASIN	1/2"	1/2"	3"	1 1/2"
JANITOR SINK	1/2"	1/2"	3"	1 1/2"
SHOWER	1/2"	1/2"	2"	1 1/2"
BATHTUB/SHOWER	1/2"	1/2"	2"	1 1/2"
SINK	1/2"	1/2"	1 1/2"	1 1/2"
ELECTRIC WATER COOLER	---	1/2"	1 1/2"	1 1/2"
ELECTRIC WATER COOLER (DOUBLE STATION)	---	(2) 1/2"	(2) 1 1/2"	(2) 1 1/2"
DRINKING FOUNTAIN	---	1/2"	1 1/2"	1 1/2"
CLOTHES WASHER	1/2"	1/2"	2" STANDPIPE	1 1/2"
EMERGENCY SHOWER & EYE/FACE WASH	1 1/4" (NOTE 4)	1 1/4"	---	---
EMERGENCY EYE/FACE WASH	1/2" (NOTE 4)	---	1 1/2"	1 1/2"
EMERGENCY SHOWER	1 1/4" (NOTE 4)	---	---	---
EMERGENCY HAND HELD EYEWASH	1/2" (NOTE 4)	---	---	---
LABORATORY CUP SINK	---	1/2" (NOTE 5)	1 1/2" (NOTE 6)	1 1/2" (NOTE 6)
LABORATORY COUNTER SINK	1/2" (NOTE 5)	1/2" (NOTE 5)	1 1/2" (NOTE 6)	1 1/2" (NOTE 6)
LABORATORY OR KITCHEN HAND SINK	1/2"	1/2"	1 1/2"	1 1/2"
GLASS WASHER	1/2" (NOTE 7)	1/2" (NOTE 7)	2" (NOTE 6)	1 1/2" (NOTE 6)

NOTE:
 1 - FOR KITCHEN EQUIPMENT CONNECTION REQUIREMENTS REFER TO KITCHEN DESIGN DRAWINGS.
 2 - FOR PHOTO LABORATORY AND SCIENCE LABS EQUIPMENT CONNECTION REQUIREMENTS, REFER TO ARCH DRAWINGS AND SPECIFICATIONS.
 3 - SEE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE MOUNTING HEIGHTS.
 4 - WATER TEMPERATURE SHALL BE 85°F.
 5 - NON-POTABLE WATER SOURCE.
 6 - ACID PROOF MATERIAL.
 7 - PURE WATER SOURCE WHEN REQUIRED ON PLANS.
 8 - SEE LABORATORY EQUIPMENT SPECIFICATIONS & DRAWINGS FOR ADDITIONAL INFORMATION & REQUIREMENTS.

PLUMBING GENERAL NOTES

- THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING:
- THESE GENERAL NOTES ARE APPLICABLE TO ALL PLUMBING DRAWINGS.
 - DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL INTENT OF WORK, SEE DETAILS, SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - REVIEW DRAWINGS OF THE OTHER TRADES AS PART OF THIS CONTRACT FOR ADDITIONAL WORK REQUIRED AND COORDINATION OF CONTRACTUAL WORK FOR OPERATIONS AND CONNECTIONS TO OTHER SYSTEMS.
 - WHEN COMMERCIAL TYPE KITCHENS OCCUR, INSTALL KITCHEN EQUIPMENT PLUMBING ACCESSORIES FURNISHED BY KITCHEN EQUIPMENT CONTRACT, INCLUDING BUT NOT LIMITED TO: FAUCETS, VACUUM BREAKERS, SOLENOIDS, PRESSURE REDUCING VALVES, GAS SUPPLY HOSES, DRAINS, SINK TAILPIECES, AND OTHER TRIM SUPPLIED WITH EQUIPMENT. REVIEW THE KITCHEN DESIGN DOCUMENTS AND SPECIFICATIONS AS PART OF THIS CONTRACT FOR ADDITIONAL WORK AND COORDINATION REQUIRED.
 - WHEN LABORATORIES OCCUR, INSTALL LABORATORY EQUIPMENT AND ACCESSORIES INCLUDING BUT NOT LIMITED TO: SINKS, FAUCETS, TRAPS, TAILPIECES, DRAINS, GAS COOKS, EMERGENCY SAFETY EQUIPMENT, VACUUM BREAKERS, AND ALL PLUMBING TRIM SUPPLIED WITH LABORATORY EQUIPMENT OR CASEWORK. REVIEW THE LABORATORY DESIGN DOCUMENTS AND SPECIFICATIONS AS PART OF THIS CONTRACT FOR ADDITIONAL WORK AND COORDINATION REQUIRED.
 - PROVIDE ALL SERVICES TO HVAC EQUIPMENT INCLUDING BUT NOT LIMITED TO: GAS SUPPLY PIPING, CONDENSATE PIPING, COLD WATER SUPPLY PIPING, DRAINS, AND CONNECTIONS TO AIR HANDLING UNITS, FAN COIL UNITS, UNIT HEATERS, BOILERS, CHILLERS, ETC. ALSO, PROVIDE ADDITIONAL DEVICES INCLUDING BUT NOT LIMITED TO: BACKFLOW PREVENTERS, UNIONS, TRAPS, AND SHUT-OFF VALVES REQUIRED FOR AFOREMENTIONED EQUIPMENT. REFER TO HVAC DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.
 - PROVIDE PIPE EXPANSION JOINTS AND APPROVED SEISMIC LOOPS ON PIPING PASSING THRU ALL BUILDING EXPANSION JOINT AND SEISMIC JOINT LOCATIONS AS REQUIRED PER BUILDING CODES WHETHER OR NOT SHOWN ON DRAWINGS. REVIEW ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT BUILDING EXPANSION AND SEISMIC JOINT LOCATIONS AND EXPANSION DIMENSIONS.
 - REFER TO SITE PLAN AND CIVIL ENGINEER'S DOCUMENTS FOR ADDITIONAL INFORMATION PERTAINING TO COORDINATION OF SITE UTILITIES, BOTH EXISTING AND NEW.
 - IN RENOVATION WORK, COORDINATE SYSTEMS SHUTDOWN WITH OWNER IN ORDER TO MAKE NEW PIPING CONNECTIONS. ALLOW MINIMUM OF TEN (10) DAYS ADVANCE NOTICE FOR OWNER APPROVAL TO PROCEED WITH CONTRACT WORK.

WATER PRESSURE CALCULATION

FIXTURE	QTY	FU	TOTAL	GPM
WATER CLOSET	53	10	530	
URINAL	9	5	45	
LAVATORY	40	2	80	
SHOWER	1	4	4	
CLASSROOM SINK	45	2	90	
KITCHEN SINK	1	1	1	
SERVICE SINK	3	3	9	
DRINKING FOUNTAIN	14	.25	3.5	
CLOTHES WASHER	1	3	3	
HOSE BIBB	10	2.5/1.0	11.5	
CAN WASH	1	2	2	
FOOD SERVICE EQUIPMENT			779 FU	
			82 FU	
			861	191 GPM

STATIC LOSS TO HEIGHT (44' X .4335)	19.53 PSI
RESIDUAL THRU FLUSH VALVE	35 PSI
PRESSURE LOSS THRU METER	4 PSI
OTHER LOSSES	8 PSI
TOTAL PRESSURE LOSS	62.19 PSI
STATIC GAIN	14 PSI
PRESSURE AVAILABLE FOR FRICTION	10 PSI
TOTAL PIPE LENGTH (+15% FOR FITTINGS)	300 FT
AVAILABLE FRICTION /100 FEET	3.27 PSI / 100'

PLUMBING PIPING LEGEND

---	COLD WATER
---	HOT WATER
---	HOT WATER RECIRCULATION
---150°	HOT WATER 150° F
---150°	HOT WATER RECIRCULATION 150° F
---TW	TEMPERED OR TEPID WATER
---TWR	TEMPERED OR TEPID WATER RECIRCULATION
---NPCW	NON-POTABLE COLD WATER
---NPHW	NON-POTABLE HOT WATER
---	NON-POTABLE HOT WATER RECIRCULATION
---	WASTE OR SANITARY
---	WASTE OR SANITARY BURIED
---AW	ACID WASTE
---AW	ACID WASTE BURIED
---ST	STORM
---ST	STORM BURIED
---OST	OVERFLOW STORM
---	VENT
---AV	ACID VENT
---V V	VAPOR VENT
---GW	GREASE WASTE
---GW	GREASE WASTE BURIED
---C	CONDENSATE WASTE
---CPD	CONDENSATE WASTE - PUMP DISCHARGE
---IW	INDIRECT WASTE
---PD	PUMPED DISCHARGE
---G	GAS (NATURAL)
---LPG	LIQUIFIED PETROLEUM GAS
---HPG	HIGH PRESSURE GAS
---GV	GAS VENT
---	DIRECTION OF FLOW
---	REMOVE EXISTING PIPING OR EQUIPMENT
---	EXISTING PIPING OR EQUIPMENT
---A	COMPRESSED AIR
---HPA	HIGH PRESSURE COMPRESSED AIR
---	PIPE DOWN
---	PIPE DROP
---	PIPE RISE
---	PIPE ANCHOR
---	PIPE GUIDE OR SLEEVE
---	PIPE EXPANSION FITTING
---	VIBRATION ISOLATION FITTING
---	PLUGGED OR CAPPED PIPE
---	CLEANOUT PLUG (WITH FINISHED PLATE FOR WCO)
---	FLOOR CLEANOUT
---	RUNNING TRAP
---	HEAT TRACE CABLE
---	TEMPERATURE MAINTENANCE CABLE

PLUMBING LABORATORY LEGEND

---	ACID WASTE
---	ACID WASTE BURIED
---	ACID VENT
---	GAS (NATURAL)
---	LIQUIFIED PETROLEUM GAS
---	HIGH PRESSURE GAS
---	DEIONIZED WATER
---	DEIONIZED WATER RECIRCULATION
---	REVERSE OSMOSIS WATER
---	REVERSE OSMOSIS WATER RECIRCULATION
---	LABORATORY COLD WATER
---	LABORATORY HOT WATER
---	LABORATORY HOT WATER RECIRCULATION
---	TEMPERED OR TEPID HOT WATER
---	TEMPERED OR TEPID HOT WATER RECIRCULATION
---	COMPRESSED AIR
---	LABORATORY AIR
---	CLEAN COMPRESSED AIR
(LA)	LABORATORY AIR OUTLET
(LV)	LABORATORY VACUUM OUTLET

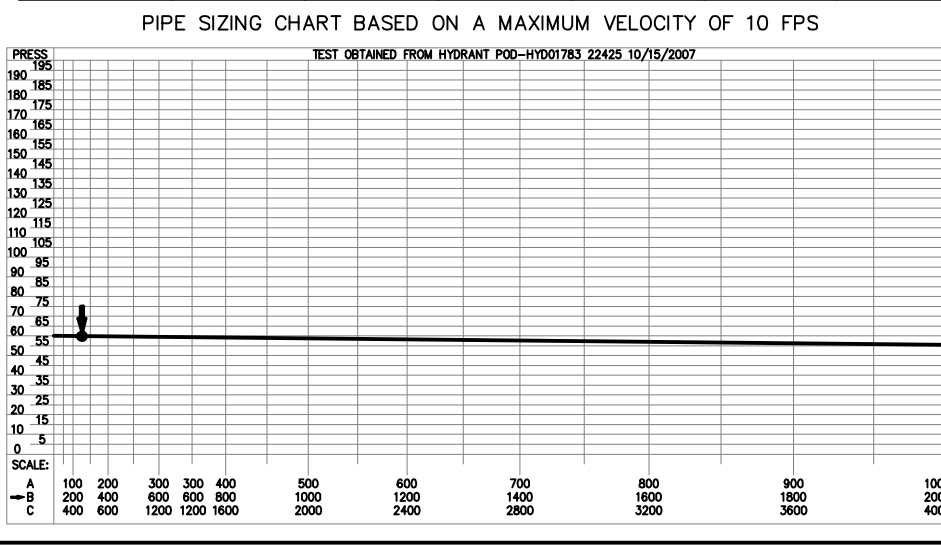
PLUMBING SYMBOL LEGEND

⊞	THERMOMETER
⊕	PRESSURE GAUGE WITH PETCOCK
⊖	WATER HAMMER ARRESTER WITH SHUTOFF VALVE
⊗	STRAINER - 'Y' TYPE
⊘	P-TRAP
⊙	ROOF DRAIN
⊚	FLOOR DRAIN
⊛	FLOOR SINK
⊜	SHOWER HEAD
⊝	TRAP PRIMER (REFER TO SPECIFICATIONS FOR TYPE)
⊞	UNION
⊟	PETCOCK
⊠	BALANCING VALVE
⊡	BALL VALVE
⊢	BUTTERFLY VALVE
⊣	CURB GATE VALVE & BOX
⊤	BACKWATER VALVE
⊥	CHECK VALVE
⊦	BACKFLOW PREVENTER (DOUBLE CHECK VALVE TYPE)
⊧	BACKFLOW PREVENTER ASSEMBLY (RPD) WITH SHUTOFF VALVES
⊨	THERMOSTATIC MIXING VALVE
⊩	SOLENOID VALVE
⊪	SHUTOFF VALVE (REFER TO SPECIFICATIONS FOR TYPE)
⊫	GAS VALVE
⊬	OS&Y GATE VALVE
⊭	VALVE IN PIPE DROP
⊮	VALVE IN PIPE RISER
⊯	ANGLE VALVE
⊰	WALL HYDRANT (WH) OR HOSE BIBB (HB)
⊱	PRESSURE REDUCING VALVE (* = PSI SETTING)
⊲	GAS PRESSURE REGULATOR
⊳	DRAIN
⊴	TEMPERATURE & PRESSURE RELIEF VALVE (T&P)
⊵	WATER METER
⊶	GAS METER
⊷	CONNECT TO EXISTING
⊸	FIXTURE TYPE (REFER TO SPECIFICATIONS FOR TYPE)
⊹	EMERGENCY SHOWER/EYEWASH
⊺	PUMP
⊻	ADA ACCESSIBLE FIXTURE
⊼	OVERFLOW STORM - WALL OUTLET
⊽	EMERGENCY GAS REMOTE PUSH BUTTON

PIPE SIZING CHART

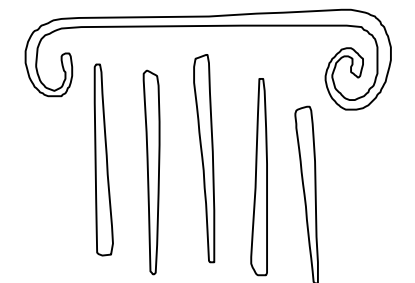
PIPE SIZE	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
GPM	2	3	6	11	18	39
FU (FT)	1	3	7	15	26	83
FU (FV)	-	-	-	-	-	26

PIPE SIZE	2-1/2"	3"	4"	5"	6"
GPM	70	113	240	420	703
FU (FT)	225	443	1254	2862	5380
FU (FV)	108	313	1254	2862	5380



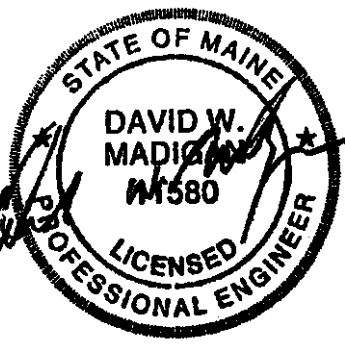
LEGEND NOTE

THESE ARE THE GENERAL LEGENDS OF SYMBOLS AND ABBREVIATIONS, AND SHALL BE USED AS A DICTIONARY TO DEFINE ITEMS INDICATED ON DRAWINGS. NOT ALL SYMBOLS OR ABBREVIATIONS DEFINED ARE NECESSARILY USED ON THIS PROJECT.



PORT CITY ARCHITECTURE

65 NEWBURY STREET
 PORTLAND, ME 04101
 207.761.9000
 fax: 207.761.2010
 lita@portcityarch.com



VANZELM ENGINEERS

VANZELM BRYWOOD & SHADFORD, INC.
 10 TALCOTT NOYSE FARMINGTON, CT 06423
 TEL: (860) 294-5044 FAX: (860) 294-5088

BECKER structural engineers, inc.

SYTDesign CONSULTANTS

CIVIL ENGINEERING & LANDSCAPE ARCHITECTURE



#	DATE	DESCRIPTION
		PERMIT SET
	01/24/08	Date Issued
	06506	Project Number

Drawn By: SMS
 Checked By: FB4/DWM
P0.1

PERMIT SET - NOT FOR CONSTRUCTION

COPYRIGHT: Reuse or reproduction of the contents of this document is not permitted without written permission of PORT CITY ARCHITECTURE PA

IF THIS SHEET IS NOT 24 X 36 IT IS A REDUCED SCALE PRINT - SCALE ACCORDINGLY