

### PLUMBING SYMBOL LIST

#### BASIC

	EXISTING PIPING
	EXISTING PIPING TO BE REMOVED
	PIPING TO BE ABANDONED
	NEW SOIL, WASTE OR SANITARY PIPING
	VENT PIPING (SANITARY)
	PIPING BELOW SLAB
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING (120°)
	DOMESTIC HOT WATER CIRCULATION PIPING
	PIPING w/FREEZE PROTECTION CABLE & INSULATION
	ARROW INDICATES DIRECTION OF FLOW
	COMPRESSED AIR PIPING
	GAS PIPING
	EJECTOR DISCHARGE PIPING
	INDIRECT WASTE PIPING
	PUMP DISCHARGE PIPING
	SUMP PUMP DISCHARGE PIPING
	STORM WATER DRAINAGE PIPING
	TEMPERED WATER PIPING
	DISCONNECT FROM EXISTING
	CONNECT TO EXISTING
	SHOCKWATER HAMMER ARRESTOR
	FLEXIBLE CONNECTION
	EXPANSION LOOP SIZE
	HOSE BIBB
	WALL HYDRANT
	FRESH AIR INLET
	CLEAN OUTPLUGGED OUTLET
	CAPPED OUTLET
	CLEAN-OUT DECK PLATE
	P-TRAP
	VACUUM BREAKER
	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
	PRESSURE GAUGE w/GAUGE COCK
	TEMPERATURE GAUGE
	FLOOR DRAIN
	ROOF DRAIN
	PUMP
	WATER METER
	AUTOMATIC BALL DRIP
	VENT THRU ROOF
	TRAP
	TAMPER SWITCH
	PRESSURE SWITCH w/GAUGE COCK
	WATERFLOW SWITCH
	TEMPERATURE AND PRESSURE RELIEF VALVE
	BACKWATER VALVE
	PLUG VALVE
	MIXING VALVE
	RELIEF VALVE
	BALL VALVE
	BALL VALVE w/LOCK SHIELD
	GATE VALVE
	GLOBE VALVE
	OUTSIDE SCREW & YOKE (OS & Y) VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE (PRV)
	SOLENOID VALVE
	FLOAT VALVE
	BALANCING VALVE
	Y STRAINER w/FLOW-OFF VALVE
	BACKFLOW PREVENTER ASSEMBLY
	REDUCED PRESSURE ZONE BACKFLOW PREVENTER ASSEMBLY
	REDUCED PRESSURE DETECTOR ASSEMBLY
	DOUBLE CHECK VALVE ASSEMBLY
	DOUBLE CHECK DETECTOR ASSEMBLY
	BALANCING VALVE ASSEMBLY
	RISER DESIGNATION X = RISER SERVICE; # = RISER NUMBER

#### HOSPITAL AND LAB

	AIR PIPING
	CARBON DIOXIDE PIPING
	DEIONIZED WATER PIPING
	DISTILLED WATER PIPING
	LABORATORY VENT PIPING
	LABORATORY WASTE PIPING
	MEDICAL AIR PIPING
	MEDICAL GAS PIPING
	MEDICAL VACUUM PIPING
	NITROGEN PIPING
	NITROUS OXIDE PIPING
	OXYGEN PIPING
	VACUUM PIPING
	WASTE ANESTHETIC GAS DISPOSAL PIPING

### PLUMBING ABBREVIATIONS

AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
BLDG	BUILDING
BOP	BOTTOM OF PIPE
CLG	CEILING
CM	COFFEE MAKER
CO	CLEANOUT
COOP	CLEANOUT DECK PLATE
CONN	CONNECT
CONT	CONTINUATION
CV	CHECK VALVE
CVO	CAPPED AND VALVED OUTLET
CW	COLD WATER
DIA	DIAMETER
DN	DOWN (PENETRATES FLOOR SLAB)
DR	DRAIN
DWG	DRAWING
EJ DIS	EJECTOR DISCHARGE
EGC	ELECTRIC WATER COOLER
(E)	EXISTING
(ER)	EXISTING TO BE REMOVED
(ERL)	EXISTING TO BE REMOVED & RELOCATED
EL	ELEVATION
FAI	FRESH AIR INLET
FD	FLOOR DRAIN
FL	FLOOR
FLH	FLOOR HYDRANT
FT	FEET
FU	FIXTURE UNIT
GAL	GALLONS
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HCLG	HUNG CEILING
HW	HOT WATER
HWR	HOT WATER RETURN
ID	INSIDIE DIAMETER
IN	INCH
IW	INDIRECT WASTE
LAV	LAVATORY
MAP	MEDICAL GAS ALARM PANEL
MAX	MAXIMUM
MIN	MINIMUM
MR	MOP RECEPTOR
NC	NORMALLY CLOSED
NIC	NOT IN THIS CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OS&Y	OUTSIDE SCREW & YOKE GATE VALVE
PD	PLUMBING CONTRACTOR
PO	PUMP DISCHARGE
PO	PLUGGED OUTLET
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH (GAUGE)
(RE)	RELOCATED EXISTING
(RRD)	EXISTING TO BE REMOVED AND RETURN TO OWNER
RD	ROOF DRAIN
SA	SHOCK ABSORBER
SAN	SANITARY
SD	SUMP PUMP DISCHARGE
SH	SHOWER
SK	SINK
SQ FT	SQUARE FOOT
ST	STORM
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UP	UP (PENETRATES FLOOR SLAB)
UR	URNAL
V	VENT
VB	VACUUM BREAKER
VTR	VENT THROUGH ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WALL HYDRANT
ZCVB	ZONE CONTROL VALVE BOX

### PLUMBING DEMOLITION NOTES

- THE CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF PLUMBING WORK AS DESCRIBED ON THE DRAWINGS AND IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT IN CERTAIN CASES CONSIDERED JUSTIFIABLE BY THE ARCHITECT.
- THE CONTRACTOR SHALL REMOVE AND/OR RELOCATE ALL EXISTING PLUMBING WORK WHICH INTERFERES WITH THE NEW ARCHITECTURAL LAYOUTS. ALL SYSTEMS WHICH ARE NO LONGER REQUIRED TO FUNCTION SHALL BE REMOVED BACK TO ACTIVE LINES.
- THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING PLUMBING SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
- DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION.
- THE CONTRACTOR SHALL REMOVE ALL PIPING SUPPORTS, ETC. FROM PARTITIONS THAT ARE TO BE REMOVED. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING PIPING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL AND PROVIDE BYPASS CONNECTIONS NECESSARY.
- ALL PIPING WHICH BECOMES EXPOSED DURING THE ALTERATION WORK SHALL BE REMOVED AND REROUTED CONCEALED BEHIND FINISHED SURFACES.
- PORTIONS OF MAINS TO BE REMOVED OR ABANDONED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ACTIVE, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED AND RECONNECTED.
- THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND FINISHING SCHEDULE SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS.
- ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACT, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF BY THE PLUMBING CONTRACTOR, AS DIRECTED BY THE OWNER.
- ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVER TIME, IF REQUIRED, TO ASSURE THAT SYSTEMS WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTIONS TO THE EXISTING SYSTEMS.
- THE SHUTDOWN OF EXISTING BUILDING PLUMBING SERVICES SHALL BE COORDINATED WITH THE OWNER. MAKE ARRANGEMENTS AT LEAST 5 BUSINESS DAYS PRIOR TO A SHUTDOWN.

### PLUMBING GENERAL NOTES

- GENERAL NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL PLUMBING DRAWINGS.
- ALL WORK IS NEW UNLESS OTHERWISE NOTED.
- DRAWINGS ARE DIAGRAMMATIC. DETERMINE LOCATIONS OF SYSTEMS AND COMPONENTS IN FIELD.
- NEITHER ACCURACY NOR COMPLETION OF UTILITY LOCATIONS SHOWN ON DRAWINGS IS GUARANTEED. DETERMINE EXACT LOCATIONS OF EXISTING UTILITY IN FIELD, WHETHER OR NOT SHOWN ON DRAWINGS. EXERCISE CAUTION AND IDENTIFY LOCATIONS OF UNMARKED UTILITY LINES AS NECESSARY TO PERFORM WORK OF THIS SECTION.
- ALL PLUMBING WORK SHALL BE IN ACCORDANCE WITH THE CURRENT PLUMBING CODE AND ALL APPLICABLE LOCAL CODES AND DRAWINGS.
- IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO COORDINATE HIS WORK WITH THAT OF ALL OTHER TRADES, INCLUDING BUT NOT LIMITED TO ELECTRICAL, HVAC, PROCESS PIPING, SPRINKLER, PLUMBING, STRUCTURAL AND GENERAL ARCHITECTURE.
- ANY INTERFERENCE SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND THE OWNER'S REPRESENTATIVE, AND SHALL BE RESOLVED PRIOR TO THE INSTALLATION OF THE WORK INVOLVED.
- NO WORK SHALL BE INSTALLED IN VIOLATION OF ANY GOVERNING CODES. ANY WORK SHOWN ON THE DRAWINGS WHICH IS IN VIOLATION OF SUCH CODES SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND THE OWNER'S REPRESENTATIVE AND SHALL BE RESOLVED PRIOR TO THE INSTALLATION OF THE WORK INVOLVED.
- ALL PIPING PENETRATING CEILING AND WALLS SHALL BE INSTALLED WITH CHROME (STAINLESS WHERE NOTED) PLATED ESCUTCHEONS AT THE PENETRATION. ALL PIPING PENETRATING EXTERIOR WALLS AND ROOFS SHALL BE FLASHED IN AN APPROVED MANNER AND SHALL BE SEALED WEATHER TIGHT. PIPING PENETRATING RATED PARTITIONS SHALL BE PROTECTED AS REQUIRED BY LOCAL CODE AUTHORITY. (SEE DETAILS)
- MANUFACTURER'S MODEL NUMBERS ARE SPECIFIED SOLELY TO ESTABLISH STANDARDS OF QUALITY FOR PERFORMANCE AND MATERIALS.
- PRODUCT INSTALLATION SHALL ADHERE TO MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE ACCESS PANELS FOR EQUIPMENT THAT REQUIRES PERIODIC SERVICE.
- TOPS OF ALL FLOOR DRAINS SHALL BE SET FLUSH WITH FINISHED FLOOR. ALL PIPING ABOVE GRADE SHALL BE PROPERLY SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE.
- CONTRACTOR SHALL COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL PLUMBING EQUIPMENT WITH THE ELECTRICAL DRAWINGS AND SHALL FURNISH EQUIPMENT WIRED FOR THE VOLTAGES SHOWN HEREON.
- PROVIDE SHUTOFF VALVES ON ALL BRANCH PIPING AND ON ALL SUPPLIES TO INDIVIDUAL FIXTURES AND EQUIPMENT. PROVIDE BALL VALVES ON ALL WATER MAIN BRANCHES IN CORRIDORS AND WHERE INDICATED ON DRAWINGS. ALL VALVES SHALL BE ACCESSIBLE.
- ALL SLEEVES THROUGH CONCRETE FLOORS AND ALL CORE DRILLING OF CONCRETE FLOORS AND WALLS SHALL BE BY THIS CONTRACTOR.
- CONCRETE PADS AND PLATFORMS FOR WORK OF THIS SECTION WILL BE PROVIDED BY GENERAL CONTRACTOR. PROVIDE INFORMATION AND HARDWARE AS NECESSARY TO COORDINATE WORK.
- SCHEDULE WORK OF THIS SECTION TO AVOID INTERFERENCES WITH FIRE-PROOFING WORK.
- COORDINATE ROOF PENETRATIONS WITH WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS.
- RUN PIPING CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS.
- STRUCTURAL WELDING SHALL BE 1/4-INCH FILLET UNLESS REQUIRED OTHERWISE.
- PROVIDE CLAMPS, OFFSETS, EXPANSION JOINTS, ANCHORS AND GUIDES AS NECESSARY TO PREVENT STRESS ON PIPING.
- PROVIDE BALANCING VALVES AT SYSTEM LOOP RETURNS AND AT RETURN RISERS. PROVIDE SHUT-OFF VALVES AT SYSTEM LOOP SUPPLIES AND SUPPLY RISERS.
- PROVIDE VENTS AT HIGH POINTS IN PIPING SYSTEMS AND DRAIN VALVES AT LOW POINTS.
- PROVIDE GAUGE FITTINGS AND THERMOMETER WELLS AT HOT WATER SUPPLY AND RETURN BRANCHES AND AT PUMP INLETS AND OUTLETS.
- VERIFY EXACT SIZES, LOCATIONS, INVERTS AND ELEVATIONS PRIOR TO RUNNING ANY PIPING. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ALL FIXTURES AND EQUIPMENT.
- ALL GAS PIPING TO COMPLY WITH LOCAL AND STATE CODES.
- GAS PIPING AND SAFETY DEVICES SHALL CONFORM TO THE REQUIREMENTS OF NFPA 54 AND SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE STATE REGULATOR BOARD.
- GAS PIPING SHALL BE TESTED ACCORDING TO THE STATE FUEL GAS CODE AND NATIONAL CODE PROVISIONS OF THE LOCAL PLUMBING INSPECTOR. IF INSPECTION OF THE TEST SHOWS DEFECTS, SUCH DEFECTIVE WORK AND MATERIAL SHALL BE REPLACED AND INSPECTION AND TEST SHALL BE REDONE.
- PLUMBING SUBCONTRACTOR IS RESPONSIBLE FOR EXTENDING ALL REGULATOR VENTS TO ATMOSPHERE. REGULATORS ARE PART OF EQUIPMENT GAS TRAIN.
- WATER HEATERS SHALL BE INSTALLED WITH DRAIN PANS UNDER HEATERS. ROUTE PAN DRAINS TO NEAREST FLOOR DRAIN OR SAFE DRAIN.
- PIPING SHALL NOT RUN OVER ELECTRICAL PANELS AND SHALL BE COORDINATED WITH WORK OF OTHER TRADES.

### PLUMBING DRAWING LIST

DRAWING NO.	DRAWING TITLE
P00-01	PLUMBING COVER SHEET
P01-02E	PLUMBING SUB-BASEMENT DEMOLITION PLAN
P01-06	PLUMBING BASEMENT DEMOLITION PLAN
P02-06E	PLUMBING SUB-BASEMENT PLAN
P02-06	PLUMBING BASEMENT PLAN
P03-00	PLUMBING DETAILS
P04-00	PLUMBING SCHEDULES

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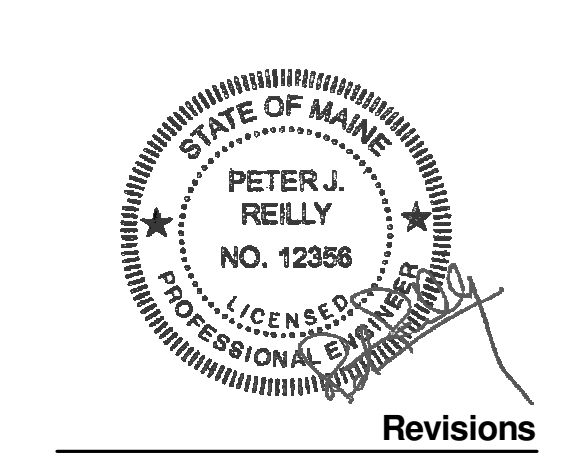
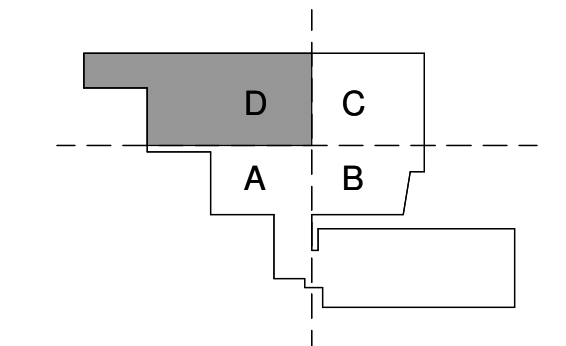
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<b>Sheet Information</b>	
Date	JULY 31, 2015
Job #	B150155-000
Drawn	DC
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Approved	JR
<b>Title</b>	

### PLUMBING COVER SHEET

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