

Revisions:

No.	Date:

PLUMB. ABBREVIATIONS

ABBREV.	DEFINITION
A	COMPRESSED AIR
AAV	AUTOMATIC AIR VENT
AB	ABSORPTION
AHJ	AUTHORITY HAVING JURISDICTION
AMP	AMPERE
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
BWV	BACKWATER VALVE
C	COMMON
CAP	CAPACITY
CI	CAST IRON
CO	CLEAN OUT
COND	CONDENSATE
CONV	CONVECTOR
CTF	COOLING TOWER FAN
CUH	CABINET UNIT HEATER
CV	CONTROL VALVE
CW	DOMESTIC COLD WATER
DEG	DEGREES
DDC	DIRECT DIGITAL CONTROL
DT	DRAIN TILE
DTC	DRAIN TILE CONNECTION
DWH	DOMESTIC WALL HYDRANT
EX	EXISTING
EMS	ENERGY MANAGEMENT SYSTEM
ESH	EMERGENCY SHOWER
F	DEGREES FAHRENHEIT
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FLA	FULL LOAD AMPS
FOS	FUEL OIL SUPPLY
PFM	FEET PER MINUTE
FS	FLOOR SINK
FV	FACE VELOCITY
G	NATURAL GAS
GGG	GRAINS PER GALLON
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HP	HORSEPOWER
HTG	HEATING
HW	DOMESTIC HOT WATER
HWR	DOMESTIC HOT WATER RETURN
HYD	HYDRANT
HZ	HERTZ
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCHES
INL	INLET
IOW	INDIRECT WASTE
KW	KILOWATT
LAV	LAVATORY
LBS/HR	POUNDS PER HOUR
LRA	LOCKED ROTOR AMPS
MH	MANHOLE
MAV	MANUAL AIR VENT
N	NITROGEN
NC	NOISE CRITERIA
NPCW	NON POTABLE COLD WATER
OD	OUTSIDE SCREW AND YOKE
PA	PIPE ANCHOR
PC	PUMPED CONDENSATE
PD	PRESSURE DROP (FEET OF WATER)
PG	PIPE GUIDE
PRV	PRESSURE REDUCING VALVE
PSIA	POUNDS PER SQUARE INCH - ABSOLUTE
PSI	POUNDS PER SQUARE INCH - GAUGE
PW	POOL WASTE
RC	RAIN CONDUCTOR
RL	REFRIGERANT LIQUID
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE
RD	ROOF DRAIN
RS	REFRIGERANT SUCTION
SAN	SANITARY WASTE
SCW	SOFTENED COLD WATER
SRD	SECONDARY ROOF DRAIN
SS	SANITARY STACK
ST	STORM WATER
STK	STACK
TC	TEMPERATURE CONTROL
UG	UNDER GROUND
V	VENT
VAC	VACUUM
VE	VOLUME EXTRACTOR
VI	VIBRATION ISOLATOR
VS	VENT STACK
VTR	VENT THRU ROOF
W	WASTE
WCO	WALL CLEAN OUT
WG	WATER GAUGE
WHA-X	WATER HAMMER ARRESTER - PDI SIZE X
WH	WATER HEATER
YCO	YARD CLEAN OUT

PLUMB. SYMBOLS

SYMBOL	DESCRIPTION
	THERMOMETER
	UNION
	STRAINER
	BELOW FLOOR SAN CONNECTION (SCHEMATIC)
	ABOVE FLOOR SAN CONNECTION (SCHEMATIC)
	EXPANSION JOINT
	PIPE ANCHOR
	PIPE GUIDE
	AQUASTAT
	SOLENOID VALVE
	BACKFLOW PREVENTER (TYPE BY AHJ)
	CIRCUIT SETTER (BALANCING VALVE)
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	CIRCULATING PUMP
	FLOW SWITCH
	GATE VALVE
	GLOBE VALVE
	OUTSIDE SCREW AND YOKE GATE VALVE (OS&Y)
	PRESSURE REGULATOR / REDUCING VALVE
	PRESSURE RELIEF VALVE
	PLUG VALVE
	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
	TEMPERATURE AND PRESSURE RELIEF VALVE
	TRIPLE DUTY VALVE
	VACUUM RELIEF VALVE

PLUMB. SYMBOLS

SYMBOL	DESCRIPTION
	COMPRESSED AIR
	CONDENSATE DRAIN
	COLD SOFTENED WATER
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	GREASE WASTE PIPING
	NATURAL GAS
	POOL WASTE PIPING
	PROPANE GAS
	SANITARY WASTE PIPING
	SANITARY VENT PIPING
	STORM WATER CONDUCTOR
	STORM WATER SECONDARY CONDUCTOR
	DIRECTION OF FLOW
	PIPE ELBOW UP
	PIPE ELBOW DOWN
	PIPE TEE DOWN
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	PIPE CAP OR PLUG
	TRAP (PLAN VIEW)
	CLEAN OUT (IN FLOOR)
	CLEAN OUT (IN LINE)
	CLEAN OUT (IN WALL)
	HOSE BIBB / DOMESTIC WALL HYDRANT
	WATER HAMMER ARRESTER

DRAWING SYMBOLS

SYMBOL	DESCRIPTION
	CONSTRUCTION KEY NOTE
	DEMOLITION KEY NOTE
	EQUIPMENT DESIGNATION
	LINE OF DEVICES OR EQUIPMENT BEYOND OR BELOW THE FLOOR
	LINE OF EXISTING DEVICES OR EQUIPMENT
	LINE OF NEW OR MODIFIED DEVICES OR EQUIPMENT
	EXISTING SYSTEM COMPONENT TO BE REMOVED

PLUMBING GENERAL NOTES

- THESE DRAWINGS ARE DIAGRAMMATIC & INDICATE THE GENERAL INTENT OF THE WORK. PROVIDE PLUMBING SYSTEMS COMPLETE AND PER APPLICABLE CODES INCLUDING REQUIRED COMPONENTS, OFFSETS REQUIRED TO AVOID THE STRUCTURE, ETC.
- REFER TO ARCHITECTURAL PLANS FOR SPECIFICATIONS OF AND EXACT LOCATIONS OF FIXTURES (STANDARD AND BARRIER FREE), SINKS, ETC.
- CONTRACTOR SHALL COORDINATE THE INSTALLATION OF PLUMBING AND PIPING WITH THE WORK OF ALL OTHER TRADES.
- PIPING SHALL NOT BE LOCATED OVER ELECTRICAL EQUIPMENT/PANELS. PROVIDE REQUIRED CLEARANCE IN FRONT OF ELECTRICAL EQUIPMENT. PIPING SHALL NOT INTERFERE WITH ELECTRICAL EQUIPMENT CLEARANCE.
- PIPING SHALL NOT BE INSTALLED IN A LOCATION THAT RESTRICTS THE ACCESS TO MECHANICAL DEVICES REQUIRING ACCESS.
- CONTRACTOR SHALL PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL MECHANICAL SYSTEMS.
- HOT AND COLD WATER PIPING RUN-OUTS TO MULTIPLE FIXTURES SHALL BE 3/4" UNLESS NOTED OTHERWISE. REFER TO PLUMBING FIXTURE SCHEDULE FOR FIXTURE CONNECTION SIZES.
- PLUMBING VENT PIPING TERMINATION THROUGH THE ROOF TO BE LOCATED 10' FROM ANY FRESH AIR INTAKE LOCATION, TO BE A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET OR SIDE OF ITEMS PENETRATING ROOF, AND TO BE A MINIMUM OF 12" ABOVE FINISHED ROOF MEMBRANE.
- PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEAN OUTS INSTALLED IN SANITARY WASTE AND VENT PIPING.
- MINIMUM UNDERGROUND WASTE PIPE SIZE SHALL BE 3" EXCEPT CONDENSATE PIPE WHICH SHALL BE 2".
- DETAIL CALL OUTS ARE GIVEN AS A REFERENCING AID. DETAILS SHALL BE APPLIED BOTH WHERE CALLED OUT AND AS APPLICABLE.
- FINISHED FLOOR ELEVATION ASSUMED AT 100'-0". REFER TO CIVIL FOR FINISHED FLOOR ELEVATION WITH RESPECT TO SEA LEVEL.
- VERIFY EXACT LOCATIONS OF ALL FLOOR DRAINS AND FLOOR SINKS WITH KITCHEN EQUIPMENT SUPPLIER PLANS BEFORE INSTALLATION. THOSE ITEMS NOT SHOWN ON KITCHEN EQUIPMENT PLANS SHALL BE LOCATED PER PLUMBING PLANS.
- DO NOT ROUTE PIPING THROUGH STRUCTURAL MEMBERS REQUIRING FIELD OPENINGS LARGER THAN 1" WITHOUT WRITTEN CONSENT FROM ENGINEER. STRUCTURAL MEMBERS TO INCLUDE BUT ARE NOT LIMITED TO BEAMS, COLLARS, JOIST & STRUCTURAL WALL ELEMENTS CALLED OUT ON STRUCTURAL DRAWINGS.
- THESE PLUMBING GENERAL NOTES APPLY TO ALL SHEETS THAT FOLLOW IN THE PLUMBING SHEET SET.

DEMO GENERAL NOTES

- ANY INTERRUPTIONS OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE SO AS NOT TO INTERFERE WITH THE PRESENT BUILDING'S OPERATION.
- THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL INTENT OF WORK TO BE PERFORMED. THE EXACT EXTENT OF DEMOLITION SHALL BE AS REQUIRED BY THE NEW WORK.
- ALL PLUMBING ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETE WITH ALL RELATED ITEMS INCLUDING HANGERS, SUPPORTS, CONTROLS, ETC. CAP ALL OPEN ENDED PIPING.
- ALL DEMOLITION OF THE EXISTING PLUMBING SYSTEMS, INCLUDING BUT NOT LIMITED TO PIPING, VALVES, CONTROLS, SUPPORTS, HANGERS, AND EQUIPMENT SHALL BE UNDER SCOPE OF THE PLUMBING SECTION OF THE SPECIFICATIONS.
- THE OWNER SHALL HAVE FIRST RITE OF REFUSAL ON ALL EQUIPMENT BEING REMOVED.

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	CONNECTION SIZE					NOTES
		CW	HW	WASTE	INDIRECT WASTE	VENT	
		INCHES	INCHES	INCHES	INCHES	INCHES	
DWH-1	DOMESTIC WALL HYDRANT	3/4"	0"	0"	0"	0"	EXTERIOR SECURITY FACEPLATE
EW-1	ELECTRIC WATER COOLER	1/2"	0"	1 1/2"	0"	1 1/2"	ADA DUAL HEIGHT
FD-1	FLOOR DRAIN	0"	0"	2"	0"	1 1/2"	INCLUDE TRAP GUARD
FS-1	FLOOR SINK	0"	0"	4"	0"	2"	-
L-1	ADA LAVATORY	1/2"	1/2"	2"	0"	1 1/2"	THERMOSTATIC MIXING VALVE
MS-1	MOP SINK	1/2"	1/2"	2"	0"	1 1/2"	-
SK-1	SINGLE COMPARTMENT SINK	1/2"	1/2"	1 1/2"	0"	1 1/2"	THERMOSTATIC MIXING VALVE
SK-2	TWO COMPARTMENT SINK	1/2"	1/2"	1 1/2"	0"	1 1/2"	THERMOSTATIC MIXING VALVE
WC-1	ADA FLOOR MOUNTED WATER CLOSET	1/2"	0"	3"	0"	1 1/2"	MANUAL FLUSH TANK TYPE
WS-1	WATER SUPPLY CONNECTION BOX	1/2"	0"	0"	0"	0"	INCLUDE WHA-A ARRESTOR

PLUMBING PUMP SCHEDULE

TAG	DESCRIPTION	FLOW RATE	HEAD	ELECTRICAL DATA		MANUFACTURER	MODEL #	NOTES
		GPM	FEET	HP	VOLTAGE			
P-1	SUMP PUMP	20	15	.25	120/1/60	LITTLE GIANT	505700	1
P-2	120' F SYSTEM CIRCULATOR	2	15	.05	120/1/60	ARMSTRONG	ASTRO-230-SS	-

NOTES:
 1. SUMP BASIN AND COVER.

PLUMBING EXPANSION TANK SCHEDULE

TAG	TANK CAPACITY		TEMPERATURE		PRESSURE		BASIS OF DESIGN		NOTES
	ACCEPTANCE	TOTAL	MIN	MAX	OPERATING	MAXIMUM	MANUFACTURER	MODEL #	
	GALLONS	GALLONS	DEG F	DEG F	PSIG	PSIG			
ET-1	1	2	0	140	55	150	AMTROL	ST-5C	-

ELECTRIC WATER HEATER SCHEDULE

TAG	HYDRONIC REQUIREMENTS			ELECTRICAL		BASIS OF DESIGN		WEIGHT	NOTES
	CAPACITY	EWT	LWT	LOAD	V/PH/HZ	MANUFACTURER	MODEL #		
	GALLONS	DEG F	DEG F	KW	V/PH/HZ			LBS	
WH-1	50	50.0	140.0	4.5	208/1/60	AO SMITH	ENT-50	605	-

NATURAL GAS LOAD SUMMARY

UNIT ID	COUNT	INPUT	UNIT LOAD (MBH)	REMARKS
RTU-1	1	120	120	HEATING AND COOLING
RTU-2	1	50	50	HEATING AND COOLING
RTU-3	1	120	120	HEATING AND COOLING
-	0	0	0	-
BUILDING TOTAL			290	Ø 8" W.C. DOWNSTREAM OF METER, LONGEST RUN 230'-0"

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 PLUMBING SYMBOLS AND SCHEDULES

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