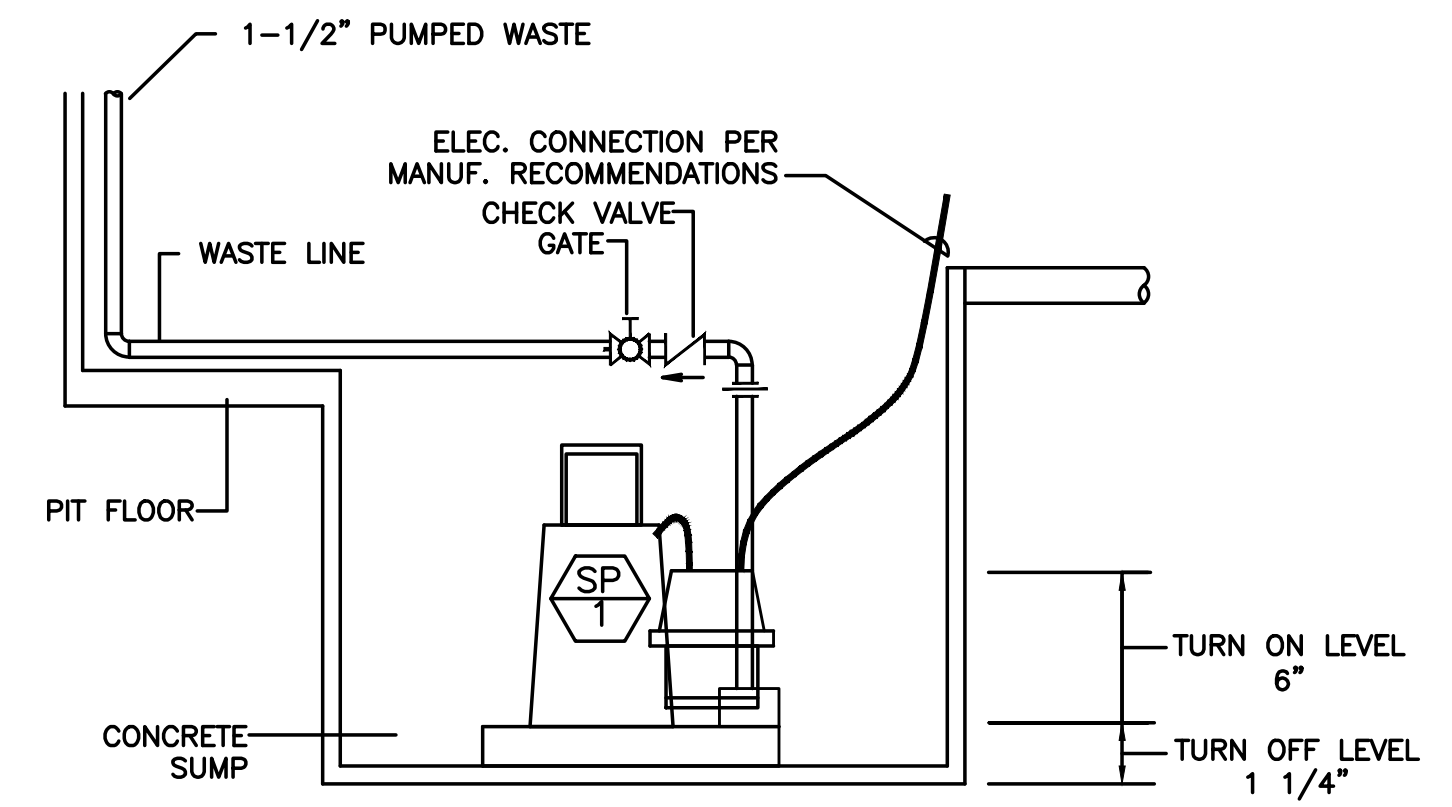
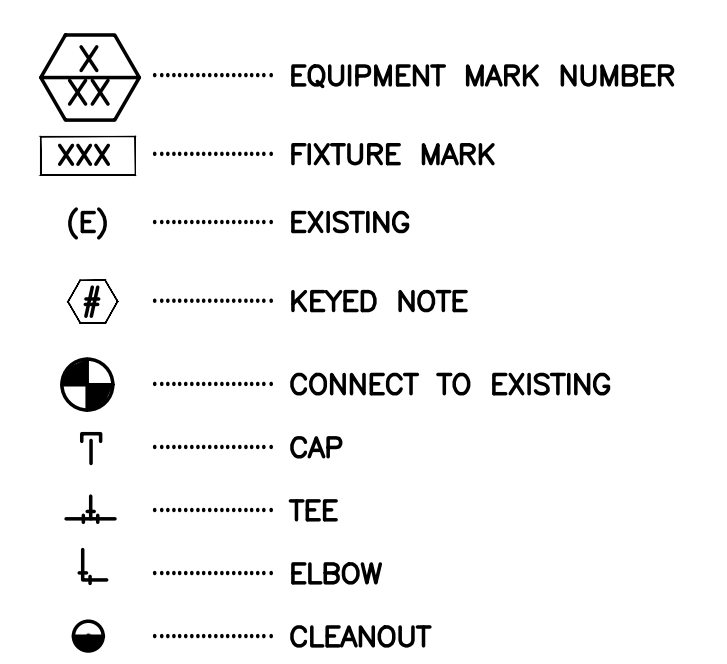


PLUMBING LEGEND

<p> AFF ABOVE FINISHED FLOOR ARCH ARCHITECTURAL B.G. BELOW GRADE BTU BRITISH THERMAL UNIT CAP. CAPACITY C.I. CAST IRON COMP. COMPARTMENT CONT. CONTINUATION CU. CUBIC DF DRINKING FOUNTAIN DI DIAMETER DIA. DIAMETER ELEV. ELEVATION EWC ELECTRIC WATER COOLER FD FLOOR DRAIN FDC FIRE DEPARTMENT CONNECTION F.F. FINISH FLOOR FLG. FLANGE FT FOOT / FEET G GAUGE GALV. GALVANIZED GPM GALLONS PER MINUTE G.V. GATE VALVE HP HORSEPOWER HR. HOUR I.E. INVERT ELEVATION KW KILOWATT LAV LAVATORY LBS POUNDS MAX. MAXIMUM MBH THOUSANDS OF BTUs PER HOUR MIN. MINIMUM M.J. MECHANICAL JOINT N.I.M. NOT IN MECHANICAL OS&Y OUTSIDE STEM & YOKE PROT. PROTECTION PRV PRESSURE REDUCING VALVE PSI, PSIG POUNDS PER SQUARE INCH P/T PRESSURE / TEMPERATURE REG'D REQUIRED RFPB REDUCED PRESSURE BACKFLOW PREVENTER RPM REVOLUTIONS PER MINUTE TYP. TYPICAL UR URINAL VTR VENT THROUGH ROOF WC WATER CLOSET </p>	<p> --- (CW) COLD WATER (POTABLE) --- (NPW) NON-POTABLE WATER --- (HW) HOT WATER --- (HWR) HOT WATER RECIRC --- (HT) HOT WATER HEAT TRACED --- (SS) SOLAR SUPPLY --- (SR) SOLAR RETURN --- (PW) PRESSURE WASH (HOT) --- (W) BELOW GRADE WASTE --- (W) ABOVE GRADE WASTE --- (V) VENT --- (RD) RAIN DRAIN --- (OD) OVERFLOW RAIN DRAIN --- (FDC) (FDC) FIRE DEPARTMENT CONNECTION --- (F) FIRE WATER --- (O2) OXYGEN --- (WAGD) (WAGD) WASTE ANESTHESIA GAS DISPOSAL --- (MV) MEDICAL VACUUM --- (G) NATURAL GAS --- (D) DEMOLISH, (R) RELOCATE --- (E) EXISTING --- NEW WORK </p>
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1 ELEVATOR SUMP PUMP DETAIL
P6.0 SCALE: NONE

PLUMBING CONNECTION SCHEDULE

MARK	FIXTURE	W	V	CW	HW	REMARKS
HB-1	HOSE BIB			3/4"		NON-FREEZE, SEE SPECS.
LV-1	LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"	COUNTERMOUNT, BATTERY OPERATED
S-1	SINK	2"	1-1/2"	1/2"	1/2"	DOUBLE SINK
SH-1	SHOWER	2"	1-1/2"	1/2"	1/2"	ADA, SEE SPECS.
SS-1	SERVICE SINK	3"	2"	1/2"	1/2"	24"X24" CORNER
WC-1	WATER CLOSET	3"	2"	1"		FLOOR MOUNT, FLUSH VALVE
WC-2	WATER CLOSET	3"	2"	1"		FLOOR MOUNT, FLUSH VALVE, ADA
UR-1	URINAL	2"	1-1/2"	3/4"		WALL MOUNT
UR-2	URINAL	2"	1-1/2"	3/4"		WALL MOUNT, ADA
FD-1	FLOOR DRAIN	3"	V.L.			J.R. SMITH 2005A (ROUND) OR EQUAL APPROVED.
ESH-1	EMG SHOWER/FACE WASH	1-1/4"	1-1/4"	1-1/4"	1-1/4"	NOTE 1, SEE SPEC. DRAIN SHOWER TO FD-1.
EW-1	EMERGENCY EYE WASH	1-1/2"	1-1/2"	1/2"	1/2"	NOTE 1
FS-1	FLOOR SINK	3"	1-1/2"			JR SMITH 3002 WITH HALF GRATE
FS-2	FLOOR SINK	3"	1-1/2"			ZURN Z1750-HD, FULL S.S. GRATE, 6" DEPTH
PD-1	PROCESS DRAIN	2"	1-1/2"			ACORN B200-LDR
SOW	SINK ON WHEEL	2"	1-1/2"	1/2"	1/2"	DRAIN TO TRENCH DRAIN, NOTE 2

NOTES:
 1. PROVIDE WITH A THERMOSTATIC MIXING VALVE TO DELIVER TEPID WATER AS REQUIRED BY ANSI Z358.1-2014.
 2. SINK AND FIXTURE BY OWNER FOR WASTE. CONNECT DRAIN TO SINK AND TERMINATE WITH SANITARY CONNECTION.
 3. PROVIDE A MECHANICAL MIXING VALVE AT EACH LAVATORY TO LIMIT THE OUTLET TEMPERATURE TO 110 DEGREE F, PER CODE.
 TD-1 = 5' LENGTH, 6" WIDE X 18" DEEP T304 STAINLESS STEEL TRENCH DRAIN WITH 3/8" END OUTLET CONNECTION. PROVIDE WITH T304 S.S. STEEL BAR GRATE, 8" WIDE X 1.5" THICK. DURA TRENCH - DTSS6-08G36SSE-INTEGRAL-GLSS6-3E WITH 08G36SSE GRATE.

Pressure drop calculations (PSI) per OPCS Appendix A

Initial pressure	60
2" service tap (30 ft @ 136gpm @12 psi/100 ft)	-3.6
Water meter (2" @ 136 gpm)	-5
2" Backflow preventer	-6
Interior piping (250 ft @ max. 3.5 psi/100 ft)	-8.75
Elevation (15 ft @ .43 psi/ft)	-6.45
Minimum pressure at remote fixture	-25
Available pressure	5.2

PLUMBING CALCULATIONS- OFFICE BUILDING (new fixtures)

FIXTURE TYPE	NUMBER OF FIXTURES	DOMESTIC WATER SERVICE			SANITARY WASTE SERVICE		
		WATER FIXTURE UNITS	TOTAL WSFU	TOTAL CW FIXTURE UNITS	TOTAL HW FIXTURE UNITS	DRAINAGE FIXTURE UNITS	TOTAL DFU
KITCHEN SINK (ONE 1-1/2" TRAP)	1	1.5	1.5	1.125	1.125	2	2
LAVATORY (SINGLE)	4	1	4	3	3	1	4
MCP BASIN	1	3	3	2.25	2.25	3	3
RECEPTOR (ELEVATOR WASTE)	1	0	0	0	0	100	100
SHOWERS (STALL)	2	2	4	3	3	2	4
URINAL (1.0 GPF. GENERAL USE)	3	4	12	12	0	2	6
WATER CLOSET (1.6 GPF FLUSHOMETER TANK-GENERAL)	5	2.5	12.5	12.5	0	4	20
HOSE BIBB (FIRST ONE)	1	2.5	2.5	2.5	0	---	---
HOSE BIBB (EACH ADDITIONAL)	2	1	2	2	0	---	---
TOTAL	20		41.5	38.375	9.375		139
SUB TOTAL FOR OFFICE BUILDING	47 GPM					WASTE SIZE	4"
Emergency Shower	20 GPM						
Emergency Eye wash	0.4 GPM						
TOTAL DCW DEMAND (ADDITION)	67.4 GPM						

PLUMBING CALCULATIONS (existing office building)

FIXTURE TYPE	NUMBER OF FIXTURES	DOMESTIC WATER SERVICE			SANITARY WASTE SERVICE		
		WATER FIXTURE UNITS	TOTAL WSFU	TOTAL CW FIXTURE UNITS	TOTAL HW FIXTURE UNITS	DRAINAGE FIXTURE UNITS	TOTAL DFU
KITCHEN SINK (ONE 1-1/2" TRAP)	8	1.5	12	9	9	2	16
LAVATORY (SINGLE)	5	1	5	3.75	3.75	1	5
MCP BASIN	1	3	3	2.25	2.25	3	3
RECEPTOR (ELEVATOR WASTE)	1	0	0	0	0	100	100
SHOWERS (STALL)	2	2	4	3	3	2	4
URINAL (1.0 GPF. GENERAL USE)	1	4	4	4	0	2	2
WATER CLOSET (1.6 GPF FLUSHOMETER TANK-GENERAL)	5	2.5	12.5	12.5	0	4	20
HOSE BIBB (FIRST ONE)	1	2.5	2.5	2.5	0	---	---
HOSE BIBB (EACH ADDITIONAL)	2	1	2	2	0	---	---
	0		0				0
	0		0				0
TOTAL	26		45	39	18		150
TOTAL	47 GPM					WASTE SIZE	4"

PLUMBING CALCULATIONS- NEW SUITES *

FIXTURE TYPE	NUMBER OF FIXTURES	DOMESTIC WATER SERVICE			SANITARY WASTE SERVICE		
		WATER FIXTURE UNITS	TOTAL WSFU	TOTAL CW FIXTURE UNITS	TOTAL HW FIXTURE UNITS	DRAINAGE FIXTURE UNITS	TOTAL DFU
SINKS ON WHEELS	3	1.5	4.5	3.375	3.375	2	6
TRENCH DRAINS	3	0	0	0	0	6	18
SINKS ON WHEELS (FUTURE SUITES)	5	1.5	7.5	5.625	5.625	2	10
TRENCH DRAINS (FUTURE SUITES)	5	1.5	7.5	5.625	5.625	6	30
FLOOR SINKS	3	0	0			1	3
	0		0				0
TOTAL	19		19.5	14.625	14.625	4	67
TOTAL	12 GPM					WASTE SIZE	4"

* NON-POTABLE WATER DEMAND AND PROCESS WASTE ONLY

TOTAL DOMESTIC WATER DEMAND SUMMARY

BUILDING	WATER DEMAND
EXISTING OFFICE BUILDING	47 GPM
NEW OFFICE BUILDING	67.4 GPM
TOTAL PROCESS DEMAND (EXISTING + NEW)	22 GPM
	136.4 GPM
EXISTING CW RISER	2-1/2" CW

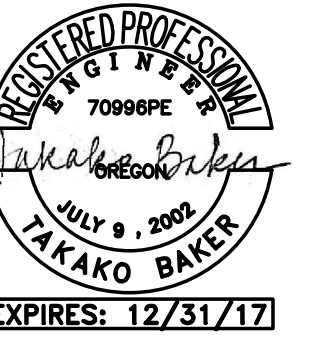
CONDENSING GAS WATER HEATERS

MARK NUMBER	WH
FUEL	NAT. GAS
CAPACITY (GAL)	60 GALLON
INPUT RATE (MBH)	125 MBH
RECOVERY CAP. @ 100F TR (GPH)	145 GPH
EFFICIENCY (%)	96%
GAS VENT/COMBUSTION AIR DIA.	3" PP
DESIGN WEIGHT (LBS)	1200
BASIS OF DESIGN: BRADFORD WHITE	EF-60T-125

SUMP PUMP

MARK NUMBER	SP
SYSTEM	ELEVATOR
TYPE	SUMP
FLOW RATE (GPM)	50
HEAD (FT H2O)	17
POWER (HP)	1/2 HP

BEND RESEARCH, INC
 CORPORATE PLACE FACILITY - BUILDING EXPANSION NORTH



DRAWN/ CHECKED: TB
 ISSUES / REVISIONS:
 REVISION: SET 07/21/2017
 PH 2 - GEN BLDG 07/28/2017
 REV 1 09/13/2017