

PLUMBING GENERAL NOTES

1. ALL PIPE SIZES SHOWN ON RISER ARE BASED ON COPPER PIPE. PEX-A IS AN APPROVED SUBSTITUTION MATERIAL (SEE SPECIFICATION SHEET). HOWEVER, IF PEX-A IS INSTALLED, ALL PIPE SIZES (EXCEPT SINGLE BRANCHES) SHALL BE INCREASED (1) PIPE SIZE FROM SIZES SHOWN ON RISER.
2. COPPER PIPE SIZING BASED ON DESIGN MAXIMUMS OF 8FT/SEC VELOCITY AND 5PSI/100FT TO 8PSI/100FT OF PRESSURE LOSS.
3. PEX-A PIPE SIZING BASED ON MANUFACTURER DESIGN CRITERIA AND DESIGN MAXIMUMS OF 8FT/SEC VELOCITY AND 5PSI/100FT TO 8PSI/100FT OF PRESSURE LOSS.
4. IF PEX-A IS USED, DOMESTIC HOT WATER RETURN PIPE SHALL BE MINIMUM OF 1" DIAMETER TO MEET MANUFACTURER RECOMMENDED VELOCITY OF 2FT/SECOND @ DESIGNED RECIRC PUMP RATE.

ABBREVIATIONS	
BFP	BACKFLOW PREVENTER
CP	CONDENSATE PUMP
CO	CLEANOUT
DFU	DRAINAGE FIXTURE UNIT
EF	EXHAUST FAN
EX.	EXISTING
FD	FLOOR DRAIN
FS	FLOOR SINK
GC	GENERAL CONTRACTOR
GI	GREASE INTERCEPTOR
HS	HAND SINK
ID	INSIDE DIA.
LAV	LAVATORY
MS	MOP SINK
MV	MIXING VALVE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIA.
O/F	OWNER/FRANCHISEE
PC	PLUMBING CONTRACTOR
PRV	PRESSURE REDUCING VALVE
RTU	ROOF TOP EQUIPMENT (HVAC)
TP	TRAP PRIMER
TYP	TYPICAL
UR	URINAL
WC	WATER CLOSET
WH	WATER HEATER
WHA	WATER HAMMER ARRESTOR

1. ALL WORK SHALL BE PERFORMED BY A LICENSED CONTRACTOR. CONTRACTOR SHALL INSTALL SYSTEMS, EQUIPMENT & COMPONENTS IN ACCORDANCE WITH MINIMUM REQUIREMENTS SHOWN IN THESE PLANS. ANY DEVIATION FROM THE DESIGN PLANS SHALL ONLY BE APPROVED IF APPROVED BY THE OWNER REPRESENTATIVE OR DESIGN ENGINEER. ALL WORK SHALL MEET OR EXCEED THE MINIMUM REQUIREMENTS OF ALL APPLICABLE CODES AND STANDARDS. HOWEVER, ANY DEVIATION FROM THE DESIGN PLANS IMPLIED BY LOCAL CODES THAT SUGGESTS INSTALLATION OF LESS THAN THE REQUIREMENTS SPECIFIED IN THESE DESIGN PLANS SHALL NOT BE ALLOWED WITHOUT APPROVAL BY THE OWNER REPRESENTATIVE OR THE DESIGN ENGINEER.

2. IT WILL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO INSURE THAT ITEMS TO BE FURNISHED UNDER PLUMBING CONTRACT WILL FIT THE SPACE AVAILABLE. PLUMBING CONTRACTOR SHALL MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS AND SHALL FURNISH AND INSTALL SUCH SIZES AND SHAPES OF EQUIPMENT THAT ARE THE TRUE INTENT OF THE DRAWINGS AND SPECIFICATIONS.

3. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR WATER, VENT, AND WASTE SYSTEM TESTS, PER LOCAL CODE REQUIREMENTS. ALL HVAC AND EXHAUST SYSTEMS MUST BE RUNNING WHILE THESE WASTE/VENT TESTS ARE BEING PERFORMED. A CERTIFICATE WILL BE REQUIRED FROM THE PLUMBING CONTRACTOR CERTIFYING COMPLIANCE AND ACCEPTANCE OF THESE TESTS.

4. INSTALL ALL PLUMBING FIXTURES TO BE FULLY ACCESSIBLE TO INDIVIDUALS WITH DISABILITIES IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT OF 2010 AND 1997 ILL. ACC. CODE. FIXTURES AND THEIR INSTALLATION SHALL ALSO COMPLY WITH AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) PUBLICATION A117.1 - PROVIDING ACCESSIBILITY AND USABILITY FOR PHYSICALLY HANDICAPPED PEOPLE AND/OR GOVERNING CODES. ALL PLUMBING FIXTURES, EQUIPMENT, TUB & FITTINGS SHALL COMPLY WITH LOCAL, STATE, AND FEDERAL REGULATIONS AND CODES, INCLUDING, BUT NOT LIMITED TO, WATER AND ENERGY CONSERVATION CODES.

5. THE SCHEDULED AND/OR SPECIFIED PLUMBING FIXTURES AND EQUIPMENT REPRESENT THE MINIMUM CRITERIA AND SHALL BE THE BASIS FOR THE CONTRACTOR'S BASE BID. IF THE SCHEDULED OR SPECIFIED FIXTURES OR EQUIPMENT DO NOT COMPLY WITH GOVERNING CODES OR REGULATIONS IN ALL RESPECTS, THE CONTRACTOR SHALL PROVIDE AN ALTERNATE BID FOR COMPLYING FIXTURES, EQUIPMENT, TUB, OR FITTINGS. THE ABSENCE OF AN ALTERNATE BID SHALL BE CONSTRUED TO MEAN THAT THE CONTRACTOR'S BID INCLUDES ALL COSTS NECESSARY TO MEET ALL REGULATIONS & CODES.

6. GENERAL CONTRACTOR SHALL PROVIDE ALL OPENINGS IN WALLS, FLOORS, AND ROOF WITH EACH CONTRACTOR BE RESPONSIBLE FOR VERIFYING LOCATION AND SIZES OF ALL OPENINGS REQUIRED UNDER HIS CONTRACT, UNLESS NOTED OTHERWISE ON THE PLANS.

7. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO KITCHEN EQUIPMENT THAT REQUIRES A WATER AND/OR WASTE CONNECTIONS, ALONG WITH ALL PIPE, VALVES, WATER HAMMER ARRESTORS, PRESSURE REGULATORS, ETC., REQUIRED FOR A COMPLETE INSTALLATION.

8. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR APPROVED FLOOR PLAN AND DIMENSIONS. DO NOT SCALE PLUMBING DRAWINGS.

9. ANY DEVIATIONS FROM SPECIFIED PLUMBING FIXTURES AND LISTED IN FUTURE SCHEDULE SHALL OBTAIN PRIOR APPROVAL FROM THE OWNER'S REPRESENTATIVE.

EXISTING CONDITIONS

10. EXISTING WASTE/VENT AND WATER SUPPLY LINES AND FIXTURES ARE SHOWN IN APPROXIMATE LOCATION. PLUMBING CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND SIZES BEFORE INSTALLATION OF ANY NEW EQUIPMENT. MAKE NECESSARY ADJUSTMENTS AS REQUIRED.

COORDINATION

11. IT WILL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO ENSURE THAT ITEMS TO BE FURNISHED UNDER PLUMBING CONTRACT WILL FIT THE SPACE AVAILABLE. PLUMBING CONTRACTOR SHALL MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS AND SHALL FURNISH AND INSTALL SUCH SIZES AND SHAPES OF EQUIPMENT THAT ARE THE TRUE INTENT OF THE DRAWINGS AND SPECIFICATIONS.

12. PLUMBING CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL PRIME CONTRACTORS PRIOR TO INSTALLATION OF HIS WORK.

13. MECHANICAL DUCTWORK SHALL HAVE RIGHT-OF-WAY OVER ALL PLUMBING PIPES AND ELECTRICAL CONDUITS.

14. PLUMBING CONTRACTOR SHALL COORDINATE WITH EQUIPMENT SHEETS.

INSTALLATION

15. ALL PLUMBING PIPING SYSTEMS AT WALLS SHALL BE FULLY RECESSED WITHIN WALL CAVITIES UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS AND APPROVED BY KRISPY KREME. THIS SHALL INCLUDE WALLS WHICH ARE CONSTRUCTED FROM CMU. CAULKED COORDINATE INSTALLATION OF PIPING IN CMU WALLS WITH MASON.

16. ALL PLUMBING FIXTURES SHALL BE NEATLY CAULKED WITH SILICONE COMPOUND WHERE FIXTURE MEETS WALL.

17. ALL PIPES PASSING THROUGH FLOOR SLAB OR WALLS SHALL BE INSTALLED WITH FOAM RUBBER INSULATION.

19. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL A BACKFLOW PREVENTER OR VACUUM BREAKER AT ALL FIXTURE CONNECTIONS AND AS REQUIRED BY LOCAL CODES AT ANY POINT WHERE THERE IS DANGER OF NON-POTABLE WATER COMING IN CONTACT WITH THE POTABLE WATER SYSTEM OR ANY DANGER OF BACK-FLOW. COORDINATE WITH LOCAL INSPECTOR.

20. WHERE TUBING PASSES BEHIND STUCCO, PLASTER OR AREAS WHERE STAPLES ARE USED, IT SHALL BE PROTECTED BY CONTINUOUS SLEEVE OR APPROVED SHIELD THAT IS TWICE THE DIAMETER OF THE TUBING BEING PROTECTED.

21. PLUMBING CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR APPROVED FLOOR PLAN AND DIMENSIONS.
DO NOT SCALE PLUMBING DRAWINGS.

DWV PIPING

22. INSTALL ALL THREADED CLEANOUT PLUGS WITH PIPE DOPE TO ALLOW EASY REMOVAL IN THE FUTURE.

23. ALL INDIRECT WASTE LINES SHALL HAVE A MINIMUM OF 2" AIR GAP OR TWICE THE EFFECTIVE DRAIN DIAMETER (WHICH EVER IS LARGER) WHERE IT TERMINATES AT THE RECEPTOR.

24. ALL HUB/FLOOR/TRENCH DRAINS AND FLOOR SINKS SHALL BE PROVIDED WITH DEEP SEAL TRAPS.

25. SET TOP RIM OF ALL IN-FLOOR FIXTURES (DRAINS, FLOOR SINKS, CLEAN-OUTS, ETC.) FLUSH WITH FINISHED FLOOR UNLESS DRAWINGS EXPLICITLY SPECIFY OTHERWISE.

26. CLEANOUTS LOCATED IN TRAFFIC-BEARING AREAS SHALL BE INSTALLED WITH A VEHICLE TRAFFIC BEARING BOX. THE BOX SHALL BE SET IN CONCRETE SLAB, EXTENDING AT LEAST 12" FROM THE PERIMETER OF THE CLEANOUT. THE SLAB SHALL BE NOT LESS THAN 6" THICK. THE CONCRETE SHALL BE NOT LESS THAN 2,500 PSI.

WATER PIPING

27. PLUMBING CONTRACTOR SHALL INSTALL SHOCK ABSORBERS/WATER HAMMER ARRESTORS TO MEET ALL STATE AND LOCAL CODE REQUIREMENTS.

28. PLUMBING CONTRACTOR SHALL INSTALL WATER SUPPLY PIPES SO THAT NO PIPE JOINTS ARE UNDER FLOOR SLAB - ALL JOINTS WILL BE ABOVE THE FLOOR IN ACCESSIBLE WALLS.

29. ALL NEW HOT AND COLD WATER PIPING IN WALLS, ABOVE CEILINGS, AND EXPOSED SHALL BE INSULATED WITH AN INSULATION HAVING A MAXIMUM K FACTOR OF 0.28 @ 75°F MINIMUM TEMPERATURE FOR 2" WALL, FLEXIBLE ELASTOMERIC THERMAL TYPE, CLOSED CELL INSULATION SIMILAR TO AF AERMAFLEX TUBE INSULATION (ARMACELL). INSULATE FITTINGS CONTINUOUSLY, BUT DO NOT INSULATE VALVE BODIES. NOR FIXTURE SUPPLIES.

a. LONGITUDINAL SEAMS SHALL BE SEALED.

b. LATERAL SEAMS (BUTT JOINTS) SHALL BE SEALED ON COLD WATER PIPES ONLY.

c. THICKNESS SHALL BE 1/2" FOR COLD WATER PIPES UP TO 1-1/4" AND 1" FOR COLD WATER PIPES 1-1/2" AND GREATER.

d. THICKNESS SHALL BE 1" MINIMUM FOR ALL HOT WATER AND HOT WATER RETURN PIPES.

30. PLUMBING CONTRACTOR SHALL INSTALL ALL DOMESTIC HOT AND COLD WATER PIPING LOCATED IN EXTERIOR WALLS AND CEILING ON HEATED OR WARM SIDE OF THE INSULATION.

31. PLUMBING CONTRACTOR SHALL CLOSELY COORDINATE PIPING INSTALLATION WITH GENERAL CONTRACTOR AND VERIFY NO BUILDING INSULATION IS COMPROMISED IN EXTERIOR WALLS.

32. HOT AND COLD WATER PIPING ABOVE GROUND SHALL BE TYPE "L" HARD DRAWN COPPER PIPING ASSEMBLED WITH WROUGHT SWEAT FITTINGS. AS AN ALTERNATE, WATER PIPING CAN BE CROSS-LINKED POLYETHYLENE (PEX-A) TUBING AND ASTM F-1960 COLD EXPANSION FITTINGS. ALL WATER PIPING BELOW GRADE OR BELOW CONCRETE SLAB SHALL BE TYPE "K", COPPER TUBING, JOINTS IN COPPER TUBING SHALL BE WITH SILVER SOLDER SIMILAR OR EQUAL TO SIL-FOS.

33. ALL VALVES SHALL BE SAME SIZE AS PIPING SERVED (MINIMUM).

GAS PIPING

34. PLUMBING CONTRACTOR SHALL SUPPLY AND INSTALL GAS PIPING AS SHOWN ON PLANS. ALL GAS PIPING SHALL COMPLY WITH LOCAL CODES. PLUMBING CONTRACTOR SHALL MAKE FINAL CONNECTIONS TO ALL GAS EQUIPMENT. INSTALL REGULATORS AT EQUIPMENT WHERE REQUIRED BY MANUFACTURER OR CUTS SUPPLIED BY FURNISHING CONTRACTOR.

35. GAS PIPING SHALL BE SCHEDULE 40 ASTM A53 TYPE B BLACK STEEL WITH MALLEABLE FITTINGS. PROVIDE GAS COCK, UNION AND DIRECT LEG AT EVERY CONNECTION. PIPING 2-1/2" AND LARGER OR EXCEEDING 11WC SHALL BE WELDED. TEST GAS PIPING AT 25 PSI-REPAIR LEAKS AND RETEST.

GREASE INTERCEPTOR SIZING

GREASE INTERCEPTOR SIZING PROCEDURE FOR KITCHEN FIXTURES					
FIXTURE TYPE	QUANTITY	PIPE DIAMETER	GPM/FIXTURE	FIXTURE RATING	GPM
Pot sink	1	2	33	1.00	33
Meat & Vegetable prep sink	1	1 1/2"	15	0.10	1.5
Dump Sink					0
Wok					0
Production Line Floor Sink					
Dishwasher					0
Can wash / Mop sink					7
Total					41.5
Grease Interceptor Size = flow rate x 30 minutes =					1245
Please round up to the next available size to determine the required grease interceptor.					

SIZING PROCEDURE FOR FOOD SERVICE ESTABLISHMENTS (FSE'S)
MINIMUM OF 1,000 GALLONS
VOLUME OF GREASE INTERCEPTOR (GALLONS) = $(J/A \times B) + C + D \times F$

A. GPM/FIXTURE — THESE VALUES ARE DERIVED FROM THE MANNING FORMULA. THE MANNING FORMULA TAKES INTO ACCOUNT THE 0.0005 ROUGHNESS OF THE PIPE, AND PIPE DIAMETER SIZE. LISTED BELOW ARE THE DRAINAGE RATES OF VARIOUS PIPE DIAMETERS USING THE MANNING FORMULA

0.5 INCH PIPE DIAMETER = 0.8 GPM/FIXTURE	1.0 INCH PIPE DIAMETER = 5.0 GPM/FIXTURE
1.5 INCH PIPE DIAMETER = 18 GPM/FIXTURE	2.0 INCH PIPE DIAMETER = 33 GPM/FIXTURE
2.5 INCH PIPE DIAMETER = 59 GPM/FIXTURE	3.0 INCH PIPE DIAMETER = 93 GPM/FIXTURE

B. FIXTURE RATINGS OF GREASY WASTE STREAMS — FIXTURES THAT HAVE MORE GREASE IN THEIR WASTE STREAM RECEIVED HIGHER VALUES WHILE LESS GREASE CORRESPONDS TO A LOWER RATING.


THE TABLE IS SHOWN BELOW-TABLE OF COMMON COMMERCIAL KITCHEN FIXTURES AND THEIR CORRESPONDING RATING:

POT SINK = 1.0	MEAT AND VEGETABLE PREP SINK = 0.10
PRE-RINSE SINK = 0.75	WOK = 1.0
TILT KETTLE = 0.00	FLOOR DRAIN = 0.00

C. DRAIN DIRECT FROM DISHWASHERS, SANITIZERS, GARAGE DISPOSAL, FOOD WASTE GRINDERS OR GLASS WASHERS — THESE FLOWS MUST BE ADDED DIRECTLY TO THE GPM FLOW. THE MANUFACTURER'S PEAK DISCHARGE RATE FOR FLOW IN GPM MUST BE USED.

D. FLOW IN CAN WASHES OR MOP SINK SCAN WASHES AND MOP SINKS ARE TYPICALLY USED INTERMITTENTLY. FOR THE PURPOSE OF SIZING, 7 GPM WILL BE USED FOR CAN WASHES AND MOP SINKS.

E. THIRTY (30) MINUTE RETENTION TIME PLEASE NOTE THAT ADDITIONAL FIXTURES ARE ALSO CONNECTED TO THE GREASE WASTE LINE BUT ASSUMED TO HAVE INTERMITTENT FLOW AND ARE NOT ASSUMED TO ADD TO THE PEAK FLOW OF THE GREASE WASTE INTERCEPTOR.

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