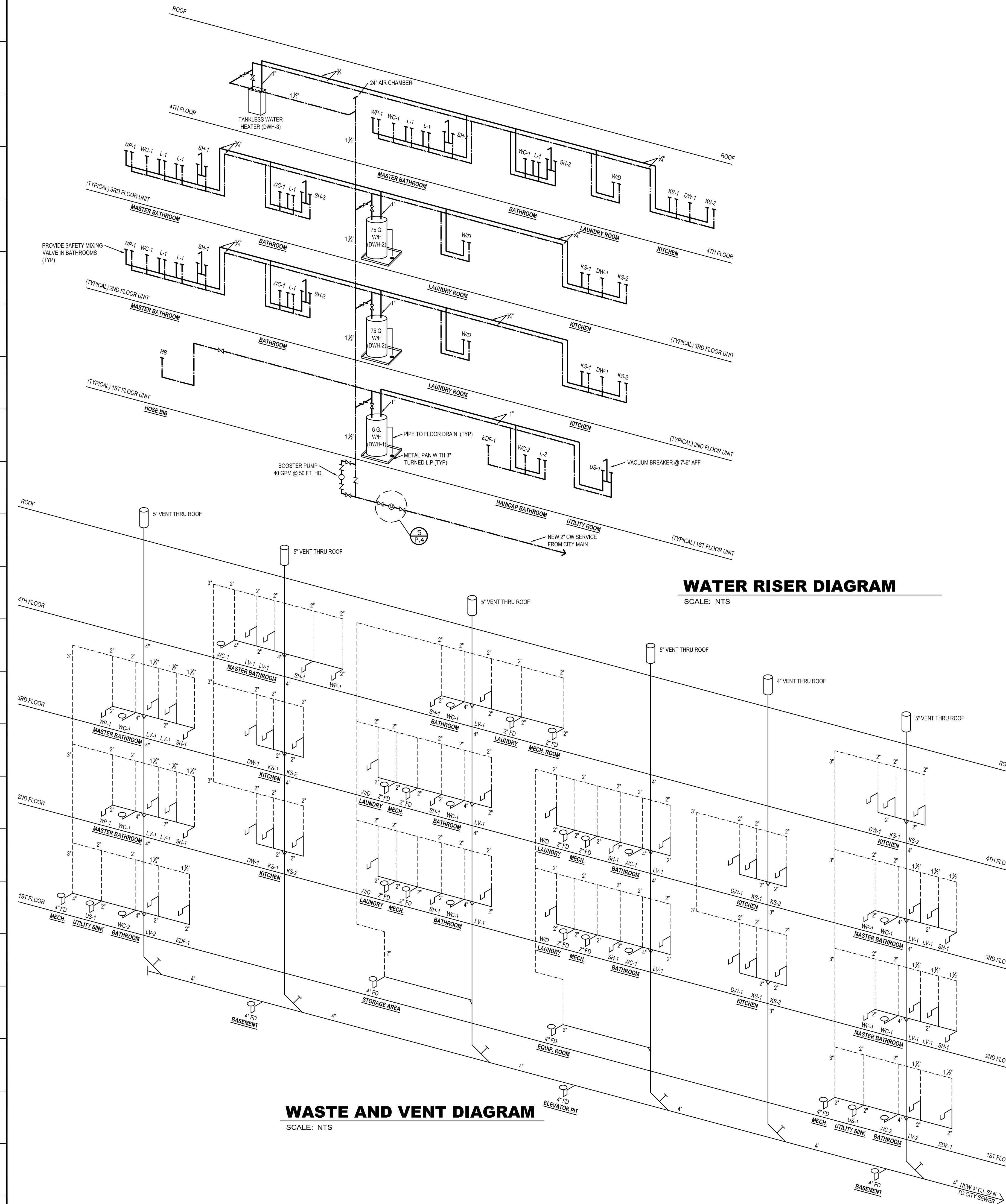


PLUMBING WORK NOTES:

1. THREADED PIPE JOINTS SHALL BE SEALED WITH CHEMICALLY RESISTANT SEALANT APPLIED SPARINGLY TO MALE THREADS. THREAD PIPE IN ACCORD WITH ANSI/ASTM B2.1. DO NOT USE TEFLON TAPE ON GAS LINE PIPE THREADS. USE A FLEXIBLE PIPE SEALANT APPROVED FOR NATURAL GAS PIPING. APPLY JOINT COMPOUND ON MALE THREADS ONLY. NIPPLES SHALL BE SAME AS CONNECTING PIPE, NO CLOSE NIPPLES ALLOWED.
2. INSTALL ALL SUSPENDED PIPING AS HIGH AS POSSIBLE. COORDINATE WITH ANY ELECTRIC CONDUITS, STRUCTURAL MEMBERS, SPRINKLER PIPING, DUCTWORK, ETC. AND WORK OF OTHER TRADES; MAINTAIN MINIMUM OF 12" CLEARANCE BETWEEN NATURAL GAS PIPING AND ANY "HOT" SURFACES AND HOT PIPING.
3. PIPING SHALL RUN PARALLEL OR PERPENDICULAR TO BUILDING WALLS AND STRUCTURAL MEMBERS. ALL PIPING RUNNING AT CEILING LEVELS SHALL BE CONCEALED WITHIN ABOVE CEILING SPACE WHENEVER POSSIBLE. WHERE PIPING IS EXPOSED, SUCH PIPING SHALL BE RUN TIGHT AGAINST WALLS FOR MINIMUM EXPOSURE AT CEILINGS. THERE SHALL BE NO EXPOSED PIPING, UNLESS SPECIFICALLY NOTED OTHERWISE.
4. MAKE ROUGH-IN, FINAL CONNECTIONS TO EACH AND EVERY NATURAL GAS INLET, PLUMBING FIXTURE, FAUCET, FLOOR DRAIN, WATER HEATER, HOT & COLD WATER OUTLET, AND ANY PLUMBING APPARATUS REQUIRING SAME; INCLUDING KITCHEN, CLOTHES WASHING AND AUXILIARY EQUIPMENT FURNISHED BY OTHERS ALONG WITH INDIRECT WASTES, T & P RELIEF LINES AND CONDENSATION LINES. MAKE CONNECTIONS PER MANUFACTURER'S INSTRUCTIONS.
5. ABOVEGROUND DOMESTIC WATER PIPE 2" AND SMALLER SHALL BE TYPE "M" HARD TEMPER STRAIGHT LENGTHS OF COPPER WITH CAST WROUGHT COPPER SOLDER JOINTS AND FITTINGS. 2-1/2" AND LARGER SHALL BE SCHEDULE 40 GALVANIZED STEEL WITH MECHANICAL GROOVE JOINTS & FITTINGS. ABOVEGROUND SOIL AND VENT PIPE SHALL BE COPPER OR GALVANIZED THREADED JOINTS AND FITTINGS. UNDERGROUND SOIL AND VENT PIPING SHALL BE MINIMUM OF 4 INCH (3 INCH FOR VENT) SERVICE WEIGHT CLOSE-GRAINED GRAY CAST IRON HUB AND SPIGOT.
6. ANY EXTERIOR WATER SERVICE PIPE SHALL BE DUCTILE-IRON WITH CEMENT-MORTAR LINING (CONFORMING TO USA STANDARD A21.4-64 [AWWA C104-53]) COATED ON THE OUTSIDE WITH BITUMINOUS COATING OF EITHER TAR OR ASPHALT, SCHEDULE 150 WITH DUCTILE-IRON RUBBER-GASKET JOINTS. INSTALL IN ACCORDANCE WITH ANSI/ASSE C600 - "STANDARD FOR INSTALLATION OF GRAY AND DUCTILE CAST-IRON WATER MAINS AND APPURTENANCES" AND USA STANDARD A21-51-1965 (AWWA C151-65).
7. ANY WATER SERVICE PIPE GATE VALVE SHALL HAVE FLANGED ENDS CLASS 175 IRON BODY BRONZE MOUNTED BOLTED BONNET RISING STEM, OS&Y, ONE-PIECE TAPERED DISC SOLID WEDGE DESIGNED FOR CONTACT ON BOTH SIDES, UL LISTED, FLANGES COMPLYING WITH ANSI B16.1.
8. COOLING COILS, HUMIDIFIER, FURNACE, ETC. CONDENSATION DRAIN PIPING SHALL BE TYPE "M" SOFT ANNEALED SEAMLESS COPPER TUBING WITH CAST WROUGHT COPPER SOLDER JOINT FITTINGS.
9. WATER HEATER RELIEF PIPING SHALL BE TYPE "M" HARD TEMPER COPPER TUBE WITH CAST WROUGHT COPPER SOLDER JOINT FITTINGS, PIPED TO TERMINATE INTO A DRAIN - OPEN SITE.
10. A FULL SIZE AIR CHAMBER SHALL BE FURNISHED FOR WATER SERVICE TO EVERY WATER OUTLET.
11. LOCATE AND PROTECT ANY UNDERGROUND WORK IN A MANNER WHICH WILL ENSURE THAT NO DAMAGE TO ANY IN-PLACE NEW & EXISTING U/G ITEMS WILL RESULT FROM INSTALLATION, EXCAVATING AND BACKFILLING.
12. PIPE SIZE REDUCTIONS SHALL BE DONE WITH USE OF REDUCING FITTINGS.
13. DOMESTIC WATER SHUTOFF & ISOLATION VALVES SHALL BE CLASS 125 ANSI/ASTM B2.1 THREADED ENDS, BRONZE BODY, UNION BONNET, RISING STEM AND SOLID WEDGE INSTALLED WITH DIELECTRIC INSULATORS.
14. PROVIDE WATER HEATER DRAIN VALVE OF CLASS 125 BRONZE BODY SCREWED BONNET RISING STEM COMPOSITION DISC WITH 3/4" HOSE CONNECTION.
15. DOMESTIC HOT & COLD WATER PIPING HORIZONTAL & VERTICAL MAINS ALONG WITH DOMESTIC COLD WATER HORIZONTAL & VERTICAL CONCEALED BRANCHES (NOT BRANCH DROPS OR RUNOUTS TO FIXTURES), SHALL BE COVERED WITH 1/2" THICKNESS, HEAVY DENSITY, FIBERGLASS SECTIONAL PIPE INSULATION WITH ASJ VAPOR BARRIER JACKET. SUPPLEMENTAL (EXTRA) HOT WATER PIPING SHALL BE COVERED WITH 1" THICKNESS, HEAVY DENSITY, FIBERGLASS SECTIONAL PIPE INSULATION.
16. AFTER DOMESTIC WATER PIPING INSTALLATION HAS BEEN COMPLETED AND BEFORE BEING PLACED IN SERVICE, FLUSH ENTIRE SYSTEM UNDER WATER PRESSURE, AS REQUIRED TO REMOVE FOREIGN SUBSTANCES, CONTINUE FLUSHING UNTIL WATER IS CLEAR, AND CHECK TO ENSURE SYSTEM IS FREE OF -DEBRIS. CHECK SYSTEM FOR LEAKAGE OF JOINTS. TEST FAILS IF LEAKAGE IS OBSERVED. REPAIR PIPING SECTIONS WHICH FAIL REQUIRED PIPING TEST, BY DISASSEMBLY AND REINSTALLATION, USING NEW MATERIALS TO EXTENT REQUIRED TO OVERCOME LEAKAGE. DO NOT USE CHEMICALS, STOP-LEAK COMPOUNDS, MASTICS, OR OTHER TEMPORARY REPAIR METHODS.
17. KITCHEN WASTE SHALL BE SEPARATE FROM SANITARY WASTE LINE AND COMBINE ONLY AFTER IT RUNS THROUGH A GREASE SEPARATOR.
18. TEST ANY KITCHEN, SANITARY AND STORM (ABOVE GROUND AND UNDERGROUND) DRAINAGE SYSTEM IN ACCORDANCE WITH INDUSTRY STANDARDS.
19. TERMINATE PLUMBING ROUGH-INS WITH ACCESSIBLE STOP VALVES PRIOR TO FIXTURE/EQUIPMENT CONNECTIONS.
20. INSTALL HORIZONTAL SANITARY, KITCHEN AND STORM PIPING PITCHED TO DRAIN AT MINIMUM SLOPE OF 1/8" PER FOOT OF RUN.
21. BACKFILL TRENCHES WITH A MINIMUM OF 8" DEPTH PEA GRAVEL, CONCRETE FINISH BY OTHERS.
22. SOIL AND DEBRIS TO BE HAULED OFF SITE.
23. PLUMBING VENTS SHALL RUN UP THRU ROOF WITH PIPE SIZE INCREASED TO ONE SIZE LARGER.
24. PRIOR TO DISINFECTING DOMESTIC WATER SYSTEM, ENSURE PH OF WATER TO BE TREATED IS BETWEEN 7.4 AND 7.6 BY ADDING ALKALI (CASTIC SODA OR SODA ASH) OR ACID (HYDROCHLORIC). INJECT DISINFECTANT, FREE CHLORINE IN LIQUID (HYDROCHLORIC SOLUTION), POWDER (CALCIUM HYPOCHLORITE GRANULES), TABLET OR GAS FORM AS APPROVED BY THE CITY OF CHICAGO AND STATE OF ILLINOIS PUBLIC HEALTH DEPARTMENT CODES, THROUGHOUT SYSTEM TO OBTAIN 50 TO 80 MG/L RESIDUAL. PROVIDE NECESSARY INLETS, OUTLETS, VENTS AND DRAINS TO PROPERLY INTRODUCE DISINFECTANT. BLEED WATER FROM OUTLETS TO ENSURE DISTRIBUTION AND TEST FOR DISINFECTANT RESIDUAL AT 2% OF OUTLETS. MAINTAIN DISINFECTANT IN SYSTEM FOR 24 HOURS. IF FINAL DISINFECTANT RESIDUAL TESTS LESS THAN 25 MG/L, REPEAT TREATMENT. FLUSH DISINFECTANT FROM SYSTEM UNTIL RESIDUAL EQUAL TO THAT OF INCOMING WATER OR 1.0 MG/L. TAKE SAMPLES NO SOONER THAN 24 HOURS AFTER FLUSHING, FROM 5 % OF OUTLETS AND FROM WATER ENTRY, AND ANALYZE IN ACCORDANCE WITH AWWA C-601, TO SATISFACTION OF THE CITY OF CHICAGO DEPARTMENT OF WATER.
25. REPAIR ANY IN-PLACE NEW DOMESTIC WATER, STORM WATER PIPING AND OTHER SERVICE PIPE INSULATION, DAMAGED DURING CONSTRUCTION.
26. INCLUDE CLEANING & POLISHING OF EACH AND EVERY PLUMBING FIXTURE/FITTING PRIOR TO TURNING OVER TO BUILDING OWNERSHIP.
27. CLEAN EXTERIOR SURFACES OF EXPOSED PIPING OF SUPERFLUOUS MATERIALS AND FOR APPLICATION (BY OTHERS) OF ARCHITECT APPROVED PAINT.

WATER RISER DIAGRAM

SCALE: NTS



DOMESTIC WATER HEATER SCHEDULE

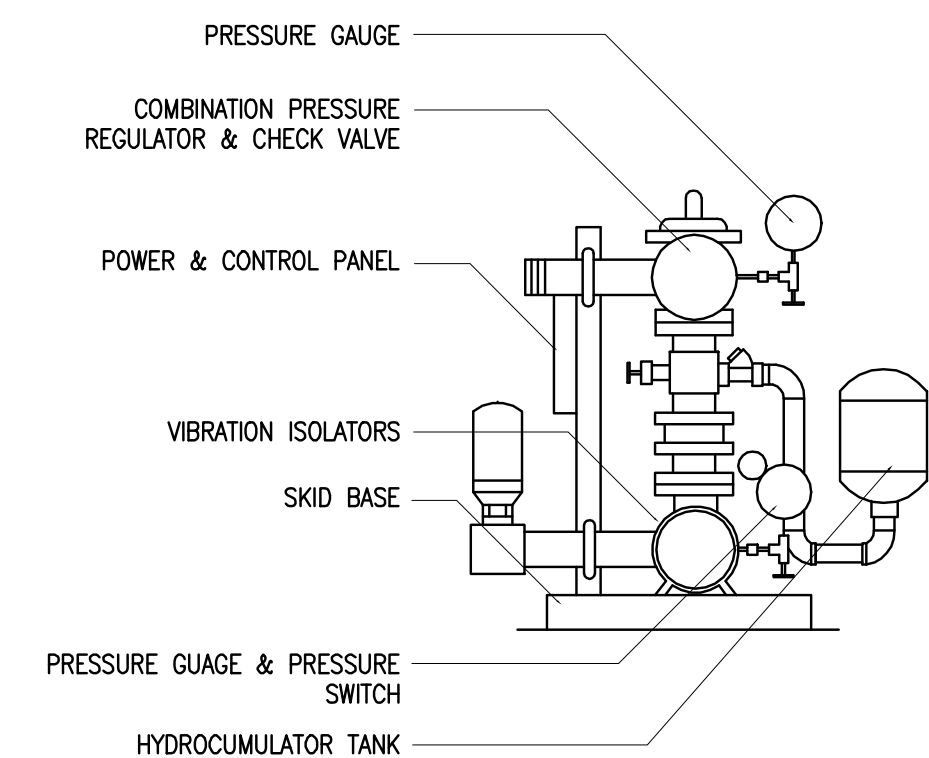
TAG	FUEL	MANUF.	MODEL #	MOUNT	STORAGE CAPACITY	TYPE	GAS INPUT	VENT	REC'D RATE 90 F RISE	DIMENSIONS	WEIGHT	AREA SERVED
DWH-1	GAS	AMERICAN WATER HEATER CO. (POLARIS)	BY TENANT	FLOOR	6 GAL.	80% EFFICIENT, SPARK IGNITION	30 MBH	5" (B)	XXX GPH	30" x 36" HIGH (APRX)	80 LBS.	OFFICE SPACE #1 & #2
DWH-2	GAS	RHEEM	22VR75	FLOOR	75 GAL.	80% EFFICIENT, SPARK IGNITION	75 MBH	5" (B)	75.8 GPH	34" x 71-5/8" HIGH	325 LBS.	2nd & 3rd FLOOR UNITS
DWH-3	GAS	RINNAI	REU-V2520FFU	WALL	CONTINU.	TANKLESS WATER HEATER	XX MBH	" (B)	-	SEE MANUFACTURER	48 LBS.	4th FLOOR SUITE

FIXTURE CONNECTION SIZES

FIXTURE	COLD WATER PIPE SIZE	HOT WATER PIPE SIZE	WASTE/SOIL PIPE SIZE	VENT PIPE SIZE
WATER CLOSET (FV)	1"	-	4"	2"
LAVATORIES	1/2"	1/2"	1 1/2"	1 1/2"
SINKS	1/2"	1/2"	2"	1 1/2"

PLUMBING FIXTURES

FIXTURE	DESCRIPTION	QUANTITY
WC-1	TOILET BY KHOLER	10
WC-2	HANDICAP TOILET BY KHOLER	2
L-1	LAVATORY BY KHOLER	13
L-2	HANDICAP LAVATORY BY KHOLER	2
SH-1	BATHUB WITH SHOWER HEAD WITH GLASS ENCLOSURE	*
WP-1	WHIRLPOOL BY KHOLER (SEE SCHEDULE SHEET)	*
KS-1	KITCHEN DOUBLE SINK (SEE SCHEDULE SHEET)	5
KS-2	KITCHEN SINGLE SINK, ISLAND (SEE SCHEDULE SHEET)	5
DW-1	DISHWASHER BY OWNER (SEE SCHEDULE SHEET)	5
W/D	WASHER/DRYER (SEE SCHEDULE SHEET)	5 SETS
US-1	UTILITY SINK	2
F.D.	4" FLOOR DRAIN PUCCO BODY NICKEL BRONZE STRAINER	*
EDF-1	HIGH/LOW ELECTRIC DRINKING FOUNTAIN	2
HB	HOSE BIB WITH INTEGRAL VACUUM BREAKER	2



BOOSTER PUMP DIAGRAM

SCALE: NTS

SUPPLEMENTAL PLUMBING NOTES:

1. ALL COPPER PIPE FOR VENT TO BE TYPE "M"
2. ALL COPPER ABOVE GROUND TO BE TYPE "L"
3. ALL COPPER BELOW GROUND TO BE TYPE "K"
4. ALL COPPER FITTINGS TO BE FORGED WITH NO LEAD SOLDER/FLUX
5. 24" AIR CHAMBERS TO BE PROVIDED ON ALL MAIN WATER RISERS
6. 12" AIR CHAMBERS TO BE PROVIDED AT ALL FIXTURES
7. SHUT-OFF STOPS TO BE PROVIDED FOR EACH FIXTURE
8. A PRESSURE OF 45 PSIG IS GUARANTEED AT EACH PLUMBING FIXTURE