PLUMBING	# LEGEND
SYMBOL	
$\ominus$	ELBOW DOWN
O	ELBOW UP
———	TEE UP
<del></del>	TEE DOWN
	CHANGE IN PIPE SIZE
	SANITARY PIPE
	DOMESTIC COLD WATER
— нw — нw —	HOT WATER
	VENT PIPING

PLUMBING NOTES

1.1 DESCRIPTION:

A. THE NON-TECHNICAL SPECIFICATIONS AND GENERAL CONDITIONS OF THESE SPECIFICATIONS ARE APPLICABLE IN

B. INCLUDE ALL EQUIPMENT, MATERIAL AND LABOR REQUIRED FOR COMPLETE AND OPERATING PLUMBING SYSTEMS. DUE TO THE SMALL SCALE OF THE FLOOR PLANS AND DIAGRAMMATIC RISER DIAGRAMS, SOME ITEMS INVOLVED MAY NOT BE INCLUDED.

1.2 WORK INCLUDED:

A. WORK WILL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING SYSTEMS COMPLETE WITH ALL REQUIRED

WORK TO THE EXTENT HEREIN SPECIFIED.

1. A SYSTEM OF SANITARY SOIL, WASTE AND VENT PIPING. 2. A SYSTEM OF DOMESTIC HOT AND COLD WATER PIPING. 3. PLUMBING FIXTURES, EQUIPMENT, ACCESSORIES, TRIM AS SPECIFIED HEREIN. 4. WATER SERVICE TO EACH FIXTURE REQUIRING SUCH

SERVICE. 5. SANITARY BUILDING DRAINS AND FIXTURE BRANCHES FROM EACH FIXTURE REQUIRING SUCH SERVICE. 6. PIPING INCIDENTAL TO HEATING AND AIR CONDITIONING

1.3 LAWS AND CODES:

A. THE CONTRACTOR SHALL INSTALL ALL WORK IN STRICT COMPLIANCE WITH ALL APPLICABLE CODES AND BE INCLUSIVE OF ALL STATE, AND LOCAL CODES. ALL PROVISIONS OF THIS SECTION APPLY TO ALL PLUMBING WORK.

B. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES AND CHARGES REQUIRED INCIDENTAL TO THE WORK INVOLVED THAT MAY BE NECESSARY FOR FULLY COMPLETING THE WORK.

C. THE CONTRACTOR SHALL MAKE ALL NECESSARY TESTS REQUIRED BY LOCAL AUTHORITIES, LEGAL REGULATIONS AND RETURN TO THE ENGINEER ANY CERTIFICATE OF APPROVAL ISSUED FOR ALL PLUMBING WORK SIGNED BY THE INSPECTING ADMINISTRATIVE AUTHORITY IN CHARGE OF EACH PARTICULAR PART OF THE

1.4 QUALIFICATIONS:

A. THE CONTRACTOR SHALL BE A LICENSED PLUMBER CERTIFIED BY THE STATE.

1.5 DRAWINGS:

A. IN THE INTEREST OF CLEARNESS, THE WORK IS NOT ALWAYS SHOWN TO SCALE OR EXACT LOCATION. CHECK ALL MEASUREMENTS, LOCATION OF PIPE, DUCTS AND EQUIPMENT WITH THE DETAIL ARCHITECTURAL, STRUCTURAL AND ELECTRICAL DRAWINGS, AND LAY OUT WORK SO AS TO FIT IN WITH CEILING GRIDS, LIGHTING AND OTHER PARTS. WHERE DOUBT ARISES AS TO THE MEANING OF THE PLANS AND SPECIFICATIONS, OBTAIN THE ENGINEER'S DECISION BEFORE PROCEEDING WITH PARTS AFFECTED OTHERWISE ASSUME LIABILITY FOR DAMAGE TO OTHER WORK AND FOR MAKING NECESSARY CORRECTIONS TO WORK IN QUESTION.

1.6 CHANGES AND CONFLICTS:

A. IF DURING CONSTRUCTION DESIRABLE OR NECESSARY CHANGES BECOME APPARENT, ADVISE THE ENGINEER AND SECURE HIS DECISION IN WRITING. OTHERWISE, MAKE NO DEVIATION FROM THE SYSTEM AS DETAILED.

1.7 GUARANTEE AND SERVICE:

A THE CONTRACTOR SHALL GUARANTEE ALL PIPING EQUIPMENT, FIXTURES AND RELATED MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE AGAINST DEFECTS DUE TO FAULTY WORKMANSHIP OR MATERIALS. SUCH DEFECTS WILL BE CORRECTED PROMPTLY AFTER NOTIFICATIONS BY THE ENGINEER AND AT THE CONTRACTOR'S EXPENSE WITH NO COST TO THE OWNER.

B. THE CONTRACTOR SHALL ALSO FURNISH WITHOUT CHARGE ANY REASONABLE SERVICE IN MAKING MINOR ADJUSTMENTS TO FIXTURES AND EQUIPMENT FOR THE SAME PERIOD, BUT THIS SERVICE WILL NOT INCLUDE THE REPLACEMENT OF PARTS DAMAGED BY MALICIOUSNESS OR VANDALISM AFTER ACCEPTANCE BY THE OWNER, OR CLEARING OF OBSTRUCTION FROM SEWERS CAUSED BY OTHER THAN DEFECTS IN THE LINE.

C. THE CONTRACTOR SHALL PUT ALL ITEMS INSTALLED UNDER THIS DIVISION INTO OPERATION AND WILL INSTRUCT THE OWNER'S MAINTENANCE PERSONNEL IN ALL POINTS REQUIRING SERVICE AND MAINTENANCE.

1.8 SUBMITTAL DATA:

A. WITHIN 30 DAYS AFTER AWARD OF CONTRACT, SUBMIT FOR APPROVAL A COMPLETE SCHEDULE OF MATERIAL AND EQUIPMENT PROPOSED. PARTIAL LISTS WILL NOT BE CONSIDERED. INCLUDE CATALOG DATA, SCHEDULED CAPACITIES, ETC., WHERE SUBSTITUTIONS ARE PROPOSED. FOLLOW PROCEDURES SET FORTH IN THE GENERAL

B. UPON REQUEST, SUBMIT SHOP DRAWINGS SHOWING PROPOSED ARRANGEMENT OF EQUIPMENT, PIPING, FLOOR DRAINS, POWER REQUIREMENTS AND CONTROLS. IN ANY CASE, SUBMIT DETAIL LAYOUTS OF POTENTIAL CONFLICTS AT PLUMBING DROPS, EQUIPMENT ROOMS, TIGHT CEILINGS, ETC.

1.9 EXISTING CONDITIONS:

A. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME ACQUAINTED WITH ALL JOB CONDITIONS. NO CONSIDERATIONS WILL BE GIVEN AFTER BID OPENING FOR ALLEGED MISUNDERSTANDING REGARDING UTILITY CONNECTIONS, PERMITS, FEES, ETC.

B. THE DRAWINGS INDICATE SYSTEMS WHICH ARE LOCATED IN EXISTING PARTITIONS AND BEHIND WALLS. THE CONTRACTOR SHALL LOCATE AND VERIFY ALL PIPING CONNECTIONS AND INCLUDE IN HIS BID CONTINGENCIES FOR THE RELOCATION OF SUCH SYSTEMS IF CONNECTIONS CAN NOT BE MADE AS SHOWN ON THE DRAWINGS.

C. THE CONTRACTOR IS REQUIRED TO CONNECT TO EXISTING PLUMBING SYSTEMS FOR THE CONSTRUCTION OF THIS PROJECT AND IS REQUIRED TO KEEP DISRUPTION OF THE EXISTING SYSTEMS TO A MINIMUM. SCHEDULE CONNECTION TO EXISTING SYSTEMS IN ADVANCE AND ADVISE THE OWNER TO THE LENGTH OF TIME SUCH SYSTEMS WILL NOT BE IN OPERATION. THE CONTRACTOR SHALL MAKE CONNECTIONS AFTER HOURS OR ON WEEKENDS IF REQUESTED BY THE OWNER. NO CONSIDERATIONS WILL BE GIVEN AFTER BID OPENING FOR ALLEGED MISUNDERSTANDING REGARDING UTILITY CONNECTIONS, PERMITS, FEES, ETC.

A. INTERRUPT EXISTING SERVICES ONLY AT TIMES APPROVED BY THE OWNER HOLD INTERRUPTIONS TO THE MINIMUM IN DURATION AND FREQUENCY.

1.11 AS-BUILT DRAWINGS:

1.12 MANUALS:

A. FURNISH FIVE (5) COPIES OF MAINTENANCE INSTRUCTIONS, OPERATING INSTRUCTIONS AND PARTS LISTS FOR ALL FIXTURES AND EQUIPMENT BOUND INTO FIVE (5) MANUALS. LOOSE SHEETS WILL NOT BE ACCEPTED. ONE MANUAL WILL BE SUBMITTED TO THE ENGINEER COMPLETE, PRIOR TO FINAL INSPECTION AND FINAL PAYMENT THE REMAINING FOUR (4) MANUALS WILL BE SUBMITTED TO THE ENGINEER.

1.13 COORDINATION OF WORK WITH OTHER TRADES:

A. THE CONTRACTOR SHALL LAYOUT AND PROCEED WITH THIS WORK SO THAT THIS WORK WILL BE EXECUTED IN HARMONY WITH ALL OTHER CONTRACTS PERTAINING TO THIS PROJECT.

B. ALL ELECTRICAL POWER WIRING REQUIRED FOR INSTALLATION OF EQUIPMENT UNDER THIS SECTION IS SPECIFIED UNDER ELECTRICAL DIVISION. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL CONTROLS, AND CONTROL WIRING AS SPECIFIED OR REQUIRED TO PROPERLY COMPLETE THE INSTALLATION. CONTROL CONDUIT IS SPECIFIED UNDER ELECTRICAL DIVISION TO THE EXTENT SHOWN ON ELECTRICAL DRAWINGS ALL OTHER CONTROL CONDUIT SHALL BE PROVIDED UNDER THIS SECTION OF WORK, ALL ELECTRICAL WORK PERFORMED UNDER THIS SECTION SHALL MEET REQUIREMENTS SET FORTH IN THE ELECTRICAL DIVISION

C. PIPE SLEEVES - FIT ALL PIPES PASSING THROUGH MASONRY AND JOB CAST CONCRETE CONSTRUCTION WITH SLEEVES. SLEEVES SHALL BE CUT FLUSH WITH EACH SURFACE, 1/2" LARGER IN DIAMETER THAN THE PASSING PIPE OR COVER, BUILT-IN AS WORK PROGRESSES. SLEEVES THROUGH JOISTS AND BEAMS SHALL BE OF GALVANIZED STEEL PIPE OTHER SLEEVES SHALL BE OF 16 GAUGE GALVANIZED IRON. MAKE SPACE BETWEEN FLOOR SLEEVES AND PASSING PIPES WATERTIGHT BY CAULKING WITH FIREPROOF PACKING AND PLASTIC WATERPROOF CAULKING COMPOUND.

D. ACCESS PANELS AND DOORS:

1. FURNISH TO GENERAL CONTRACTOR FOR INSTALLATION WHEREVER REQUIRED FOR ACCESS TO VALVES. AIR VENTS OR SIMILAR DEVICES. DOORS SHALL BE SUITABLE FOR WALL FINISH INVOLVED, 12" X 16" UNLESS OTHERWISE INDICATED, FIRE RATED WHERE FIRE WALLS ARE PENETRATED, MILCOR, PHILIP CAREY, ZURN OR OTHER APPROVED EQUA 2. WHERE DEVICE OCCURS ABOVE A LIFT-OUT ACOUSTICAL CEILING PANEL IDENTIFY THE PANEL WITH A 3/4" \*8 ROUND HEAD SELF-THREADING SCREW, SCREWED INTO PANEL WITH ONLY THE HEAD SHOWING. BEFORE INSERTING, PAINT HEAD OF SCREW WITH APPROPRIATE COLOR AS SPECIFIED UNDER PIPE IDENTIFICATION AND COLOR CODING.

E. CUTTING AND PATCHING:

1. OPENINGS ARE TO BE LAID OUT AND BUILT-IN FURNISH DETAILED LAYOUT DRAWINGS TO OTHER TRADES IN ADVANCE OF THEIR WORK. PIPING WITHIN OR BEHIND WALLS MUST BE INSTALLED BEFORE WALL IS ERECTED. OTHERWISE WALLS. ETC., AFFECTED MUST BE REWORKED BY TRADE WHICH ERECTED SAME AT EXPENSE OF THE CONTRACTOR CHASING AND CUTTING OF NEW WORK WILL NOT BE ACCEPTED. 2. CUTOUTS IN COUNTERTOPS SHALL BE MADE BY MILLWORK CONTRACTOR UPON RECEIPT OF PROPER TEMPLATES. OPENINGS IN EXISTING WALLS SHALL BE MADE BY TRADE REQUIRING SAME, WITH REPAIRING AND PATCHING REQUIRED THEREBY DONE BY THE RESPECTIVE TRADE WHOSE WORK IS

F. PAINTING AND FINISHING:

1. CLEAN AND PAINT WITH TWO COATS OF ENAMEL ALL EXPOSED FERROUS METAL PARTS OF MECHANICAL EQUIPMENT LOCATED IN MACHINERY ROOMS, ABOVE CEILINGS, ETC. (INCLUDE BLACK STEEL PIPE, UNCOATED CAST IRON PIPE, HANGERS, BRACKETS, ETC.) 2. PAINTING OF SURFACES IN FINISHED AREAS IS SPECIFIED

UNDER SECTION "PAINTING", WHERE FACTORY FINISHED ITEMS ARE MARRED OR SCRATCHED, REPLACE THE ITEM, OR UPON APPROVAL, REFINISH OR TOUCHUP AS REQUIRED TO BRING TO A LIKE-NEW CONDITION.

G. CONNECTIONS FOR EQUIPMENT FURNISHED BY OTHERS:

1. THE PLUMBING CONTRACTOR SHALL PROVIDE FLOOR DRAINS REQUIRED FOR THIS EQUIPMENT AS SCHEDULED ON THE DRAWINGS

2. ALL REQUIRED WATER SUPPLY LINES WILL BE EXTENDED TO WITHIN 2'-O" OF EQUIPMENT LOCATIONS AND TERMINATED WITH A GATE YALVE. FINAL CONNECTIONS TO EQUIPMENT WILL BE MADE BY THE PLUMBING CONTRACTOR AND COORDINATED WITH THE GENERAL CONTRACTOR AND OWNER.

1.14 MISCELLANEOUS REQUIREMENTS:

A. MATERIALS AND EQUIPMENT - NEW AND OF BEST QUALITY IN EVERY RESPECT PIPE AND FITTINGS SHALL CONFORM TO THE ASTM STANDARD DESIGNATED FOR PIPE OF EACH MATERIAL. EQUIPMENT SHALL BE ESSENTIALLY THE STANDARD PRODUCT OF THE MANUFACTURER AND UL APPROVED WHERE COMMERCIALLY AVAILABLE, WHERE TWO OR MORE UNITS OF THE SAME CLASS OF EQUIPMENT ARE REQUIRED, THESE UNITS SHALL BE PRODUCTS OF A SINGLE MANUFACTURER HOWEVER, THE COMPONENT PARTS OF EACH UNIT NEED NOT BE.

B. WORKMANSHIP - FIRST CLASS AND IN ACCORDANCE WITH BEST PRACTICE. PIPE SHALL BE CUT CLEAN, PROPERLY REAMED, THREADED OR SOLDERED ERECTED PLUMB AND SECURE, MAKE CHANGES IN PIPE SIZE WITH REDUCING FITTINGS WITHOUT THE USE OF BUSHINGS. WORK SHALL BE EXECUTED BY EXPERIENCED MECHANICS AND SHALL PRESENT A NEAT APPEARANCE. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

C. AT ALL STAGES OF INSTALLATION, PROTECT PIPE OPENINGS, FIXTURES AND EQUIPMENT AGAINST THE ENTRANCE OF FOREIGN MATERIALS, AND FROM DAMAGE BY THE ELEMENTS, MORTAR, PAINT, ETC.

D. FACTORY FINISHES - MANUFACTURER'S STANDARD UNLESS OTHERWISE STATED. SUBMIT COLOR CARDS FOR SELECTION WHERE CHOICE EXISTS.

AND MAKE PROPER PROVISIONS SO THAT EXCESSIVE STRAIN WILL NOT OCCUR ON PIPING OR OTHER PARTS. F. SAFETY PROVISIONS - PROVIDE COVERS OR GUARDS ON ALL HOT, MOVING

E. EXPANSION - PROVIDE FOR EXPANSION AND CONTRACTION OF ALL PIPING

AND PROJECTING ITEMS WHICH COULD BE A HAZARD TO OCCUPANTS OF THE BUILDING OR TO SERVICE PERSONNEL. G. CLEANING AND ADJUSTING - UPON COMPLETION OF WORK, CLEAR ALL DRAINS,

TRAPS, FIXTURES, DUCTS AND PIPE. ADJUST ALL VALVES, PACK STUFFING BOXES,

H. ESCUTCHEONS - WHERE PIPES PASS THROUGH FLOORS, WALLS AND CEILINGS, PROVIDE PRESSED CHROME-PLATED BRASS OR STEEL PLATES SECURELY FASTENED IN PLACE.

REMOVE RUBBISH AND LEAVE WORK IN CLEAN AND OPERATING CONDITION.

PART 3- EXECUTION

3.1 SANITARY PIPING:

3.3 WATER PIPING:

A, SCOPE - PROVIDE A SYSTEM OF SOIL, WASTE AND VENT PIPING CONNECTING ALL PLUMBING FIXTURES, EQUIPMENT, ETC., TO THE BUILDING DRAIN SYSTEM, WITH CONSOLIDATED VENT CONNECTIONS EXTENDING THROUGH THE BUILDING ROOF, ALL AS SHOWN ON THE DRAWINGS

B. FREEZE PROTECT ALL EXPOSED SANITARY PIPING.

C. LAYING OUT WORK - VENTS FROM ANY FIXTURE, WHEN CONNECTED TO VENT LINE SERVING OTHER FIXTURES, SHALL BE EXECUTED AT LEAST SIX (6) INCHES ABOVE FLOOD LEVEL RIM OF HIGHEST OF SUCH FIXTURES TO PREVENT USE OF VENT LINES AS A WASTE, MAKE CHANGES IN DIRECTION BY APPROPRIATE USE OF 45 DEGREE YS, 1/2" YS, OR LONG SWEEP 1/4, 1/6, 1/8 OR 1/16 BENDS. SANITARY TS OR SHORT 1/4 BENDS MAY BE USED ON VERTICAL STACKS OR DRAINAGE LINES WHERE CHANGE IN DIRECTION OF FLOW IS FROM HORIZONTAL TO VERTICAL EXCEPT THAT LONG-TURN TY'S SHALL BE USED WHEN TWO FIXTURES ARE INSTALLED BACK TO BACK WITH COMMON DRAIN. STRAIGHT TS, ELLS AND CROSSES MAY BE USED ON VENT LINES. MAKE NO CHANGE IN DIRECTION OF FLOW GREATER THAN 90 DEGREES, WHERE DIFFERENT SIZES OF DRAINAGE PIPES OR FITTINGS ARE CONNECTED, USE STANDARD INCREASERS AND REDUCERS OF PROPER SIZE. DO NOT REDUCE SIZE OF DRAINAGE PIPING IN DIRECTION OF FLOW. DRILLING AND TAPPING OF HOUSE DRAINS, SOIL, WASTE OR VENT PIPES, AND USE OF SADDLE HUBS AND BANDS ARE PROHIBITED.

D. DO NOT BEGIN WORK UNTIL ELEVATION OF FINAL CONNECTION POINT IS VERIFIED AND GRADING OF ENTIRE SYSTEM CAN BE DETERMINED.

E. HANGERS - SUPPORT PIPE ADJACENT TO EACH FITTING AND ON CENTERS NOT EXCEEDING FIVE FEET WITH HANGERS AS SPECIFIED HEREINAFTER. RIGIDLY SUPPORT BASE OF VERTICAL RUNS WITH SOLID MASONRY OR CONCRETE.

F. IN ADDITION, PROVIDE ADEQUATE SWAY BRACING TO STABILIZE ALL COMPONENTS OF THE SYSTEM. PROVIDE SPECIAL SUPPORT FOR FIXTURE ARMS, CLOSET BENDS, ETC.

G. GRADING - UNIFORM AND NOT LESS THAN 1/8" PER FOOT FOR PIPE 4" AND OVER, AND NOT LESS THAN 1/4" PER FOOT FOR 2" AND 3" PIPING.

H. WASTE ARMS - PVC DWV OR IPS BRASS PIPE TYPICAL IPS BRASS PIPE AT

I. TEST FITTINGS - NOT SHOWN ON THE DRAWINGS: PROVIDE WHERE REQUIRED FOR

J. PIPING TO BE CAST IRON OR PVC - DWV IN ACCORDANCE WITH FPC 2020 1TH EDITION.

A. SCOPE - CONNECT TO UTILITIES AS SHOWN ON THE DRAWINGS AND COORDINATE WITH THE OWNER.

B. GENERAL WORKMANSHIP - CUT ACCURATELY TO MEASUREMENTS ESTABLISHED AT SITE AND WORK INTO PLACE WITHOUT SPRINGING OR FORCING, PROPERLY CLEARING ALL OPENINGS, FINISHED CEILINGS, ETC. ROUTE THROUGH PREVIOUSLY BUILT-IN SLEEVES AND AVOID EXCESSIVE CUTTING OR OTHER WEAKENING OF THE STRUCTURE, REAM ALL PIPE TO REMOVE BURRS, MAKE CHANGES IN DIRECTION AND SIZE WITH FITTINGS. CAP OR PLUG OPEN PIPE ENDS DURING INSTALLATION TO KEEP OUT FOREIGN MATERIAL. MAKE CONNECTIONS CAREFULLY TO INSURE UNRESTRICTED FLOW, ELIMINATE AIR POCKETS AND TO PERMIT COMPLETE DRAINAGE OF THE SYSTEMS. FREEZE PROTECT ALL EXPOSED WATER PIPING.

C. GRADING - GRADE PIPE UPWARD FROM SOURCE TO FACILITATE DRAINAGE AND AIR RELIEF. WHERE LOW POINTS ARE REQUIRED BECAUSE OF LONG RUNS OR WHERE SECTIONS MAY BE VALVED OFF, PROVIDE WITH 3/4" GLOBE VALVE AND HOSE NIPPLE FOR DRAINAGE AT LOW POINT. MAKE ALL CONNECTIONS TO RISERS AND FIXTURES FROM TOP OF MAINS.

D. NIPPLES - OF SAME MATERIAL AS PIPE IN WHICH THEY ARE INSTALLED PROVIDE EXTRA STRONG WHEN UNTHREADED PORTION IS LESS THAN I" LONG.

3.4 WATER PIPING SPECIALTIES:

E. PIPING TO BE COPPER OR CPVC.

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A. UNIONS - 150 LB. RATED CAST BRASS GROUND-JOINT TYPE IN COPPER PIPE, GALVANIZED MALLEABLE IRON IN WROUGHT IRON OR GALVANIZED PIPE.

B. PROVIDE IN ALL SIZES OR THREADED PIPE. AND IN SWEAT JOINTED PIPE OVER I", SO AS TO FACILITATE EASY REPAIRS. IN SUCH LINES INSTALL ADJACENT TO WATER HEATERS, PUMPS, TANKS, ETC., INTO WHICH PIPING IS TERMINATED AND ON AT LEAST ONE SIDE OF VALVES, COCKS. STRAINERS, ETC., AND OTHER DEVICES WHICH OCCUR IN PIPING RUNS.

C. PROVIDE DIELECTRIC UNIONS BETWEEN FERROUS AND NON-FERROUS PIPING (INCLUDING PIPING AND WATER HEATER STUBS WHERE DIFFERENT).

D. YALYES - PROVIDE WHERE SHOWN AND/OR SPECIFIED, INCLUDING ALL FIXTURES OR EQUIPMENT NOT FURNISHED WITH STOPS. ALL VALVES OF EACH TYPE SHALL BE THE PRODUCT OF ONE MANUFACTURER, STOCKHAM UNITS AS INDICATED BELOW, OR EQUALS BY CRANE OR WALWORTH. ALL VALVES SHALL BE RATED 200 LB. WWP.

F. SHOCK ABSORBERS - CERTIFIED BY PLUMBING AND DRAINAGE INSTITUTE STANDARD PDI-WH201. PROVIDE WHERE INDICATED.

E. BALL VALVES 2" AND SMALLER - 5-201 BR CAST BRONZE FOR THREADED

G. WALL HYDRANTS (TYPICAL) - SEE FIXTURE SCHEDULE. FURNISH VACUUM BREAKER ON EACH HYDRANT. H. YARD HYDRANTS (TYPICAL) - NON-FREEZE 3/4" CHROMIUM PLATED BRONZE HOSE BIBB WITH LOOSE KEY, WADE W-8620 WITH INTEGRAL BACKFLOW

PREVENTER OR APPROVED EQUAL. FURNISH VACUUM BREAKER ON EACH

HYDRANT. INSTALL FLUSH WITH FINISH GRADE. SEE DRAWINGS FOR LOCATION.

. PRESSURE REDUCING VALVES - WATTS/MUESCO SERIES I 15 AS SIZED ON DRAWING, FURNISH WITH WATTS NO. 175 OR 17F "Y" TYPE STRAINER, CRANE OR

J. THERMOMETERS - "ANY ANGLE" TYPE WITH 9 INCH SCALE AND SUITABLE TEMPERATURE RANGE, AS MANUFACTURED BY TRERICE TYPE BX. THERMOMETERS SHALL BE MERCURY ACTUATED WITH PHENOL CONDENSATE WITH ALUMINUM OR BRASS CASES AND 6" SOCKET WITH EXTENSION NECK. LOCATE SO AS TO BE CONVENIENT FOR READING. EQUAL PRODUCT BY WESKLER, MARSH OR

PRESSURE GAGES - BOURDON TUBE TYPE, AS MANUFACTURED BY TRERICE NO. 600 COMPLETE WITH CAST ALUMINUM CASE, NO. 872 VIBRATION OR PULSATION SNUBBER AND NO. 135 NEEDLE VALVE. GAGE DIALS SHALL BE NOT LESS THAN 4-1/2" AND CASES SHALL BE OF ALUMINUM ALLOY. FURNISH WITH SUITABLE PRESSURE RANGES FOR EACH APPLICATION. EQUAL PRODUCTS BY WESKIER, MARSH OR ASHCROFT WILL BE ACCEPTED. AN 1/8"

L. VACUUM BREAKER - WATTS NO. 36A , CRANE OR STOCKHAM.

M. HOT WATER PIPING TO INSULATED PER FLORIDA PLUMBING CODE AND PER FLORIDA ENERGY CODE.

3.5 PIPE HANGERS AND SUPPORTS: PER FT FO

MAXWELL MOORE WILL BE ACCEPTED.

A. SPACING - INSTALL SUPPORTS AS REQUIRED TO PREVENT SAGS, BENDS OR VIBRATION IN ANY CASE PROVIDE WITHIN SIX INCHES OF ELBOWS AND VALVES, AT ENDS OF BRANCHES OVER FIVE FEET, AND ON CENTERS NOT EXCEEDING THE

1. COPPER TUBING - UP TO I". 6 FEET: OVER I", 8 FEET 2. STEEL PIPE - UP TO 1-1/4", 8 FEET: 1-1/2" AND 2", 10 FEET: 2" THROUGH 3-1/2", 12 FEET OVER 3-1/2", 16 FEET 3. CAST IRON PIPE - REFER TO SANITARY PIPING

B. EQUAL PRODUCTS - EQUIVALENT DEVICES BY GRINNELL. ELSEN, STOCKHAM OR CRANE WILL BE ACCEPTED.

C. HANGER RODS - OF MILD STEEL, THREADED AS REQUIRED. USE NOT SMALLER THAN 3/8" RODS FOR PIPE 2" AND UNDER, 1/2" RODS FOR PIPES 2-1/2" THROUGH 6", BUT GENERALLY AS STANDARD FOR THE HANGER SELECTED. SUPPORT RODS WITH THREADED INSERTS, EXPANSION SHIELDS OR BEAM CLAMPS.

D. AT TYPICAL SUSPENDED HORIZONTAL PIPE - ADJUSTABLE CLEVIS OR SPLIT-RING TYPE, EQUAL TO FEE & MASON 239 OR 215.

E. WHERE IN CONTACT WITH COPPER PIPE - SAME AS ABOVE EXCEPT HANGERS COPPER PLATED.

F. VERTICAL PIPING ALONG WALL - FEE & MASON #241 RISER CLAMPS AT FLOORS AND #336 STAND-OFF BRACKETS TOGGLE BOLTED TO WALL. PLACE UNDER HUBS OR COUPLINGS WHERE AT ALL POSSIBLE. GRINNELL OR WATTS.

PROVIDE 12" LONG, 22 GAUGE GALVANIZED SHEET METAL HALF-ROUND SADDLES TO PROTECT INSULATION. H. SUPPORTS FOR WATER SUPPLY PIPING IN SPACES BEHIND PLUMBING FIXTURES

G. ON INSULATED LINES - SIZE HANGER LOOPS TO FIT OVER INSULATION, AND

ABS BRACKETS AND U-BOLTS. SECURE THE TWO-PIECE BRACKETS TO CAST IRON STACKS. U-BOLTS SHALL BE SIZED TO BEAR ON THE PIPE. BRACKETS SHALL BE P & M BRACKET CO., OR EQUAL.

I. AT HORIZONTAL PIPING ALONG WALL - FEE & MASON #146 I-HOOKS.

3.7 FIXTURE SUPPORTS AND CONNECTIONS:

PLACED STUDS AS REQUIRED.

A. GENERAL - ALL FIXTURES INCLUDING LAYATORIES, URINALS, WATER CLOSETS ELECTRIC WATER COOLERS, ETC., MUST BE SECURELY FASTENED TO THE WALLS

B. WALL MOUNTED FIXTURES - SUPPORT ALL WALL MOUNTED FIXTURES WITH 3/16" THICK X 3-1/2" HIGH PLATES FULL LENGTH OF FIXTURE, MOUNTED BEHIND WALL. WHERE FIXTURES ARE BACK TO BACK ON A SOLID WALL, MOUNT WITH BOLTS FROM FIXTURE HANGER TO FIXTURE HANGER. DO NOT USE TOGGLE BOLTS OR EXPANSION BOLTS EXCEPT AS NOTED. WHERE FIXTURES ARE MOUNTED ON SOLID WALLS FINISHED BOTH SIDES, INSTALL FIXTURE WITH PLATED TOGGLE BOLTS. WHERE FIXTURES ARE MOUNTED ON WELDED STUDS, EMPLOY 3/16" STEEL HANGER PLATES PLACED ON WALL BEFORE LATHING. PLATES SHALL BE 16" X 8" MINIMUM SIZE, AND SHALL HAVE WELDED-ON BOLT STUDS. WHERE FIXTURES ARE MOUNTED ON WOOD OR LIGHT GAUGE STEEL STUDS, EMPLOY PRESSURE TREATED BLOCKING OF 2 X 10 NOMINAL SIZE WELL SECURED INTO STUD LINE WITH NON-CORROSIVE FASTENERS. FIT BEHIND STUD FLANGES, USING ESPECIALLY

C. FLOOR CONNECTIONS - PROVIDE FLOOR FLANGES, SCREWED OR CAULKED TO DRAINAGE PIPE. BOLT THE CONNECTION AND MAKE TIGHT TO FIXTURE WITH SETTING RING OR POLYETHYLENE GASKET FLANGE.

D. WASTE ARMS TO FIXTURES - AS SPECIFIED HEREINBEFORE, WHERE COPPER OR BRASS PIPE IS SPECIFIED, ALL JOINTS DOWNSTREAM FROM TRAP SHALL HAVE SOLDERED JOINTS.

E. STERILIZATION - THE COMPLETED SUPPLY LINE SHALL BE STERILIZED AS REQUIRED BY STATE LAW BEFORE ACCEPTANCE FOR DOMESTIC OPERATION.

ROBIN WINTON, STATE OF FLORIDA PROFESSIONAL ENGINEER, LICENSE NO. 56206. THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ROBIN WINTON ON THE DATE INDICATED HERE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON

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APPROVED: DATE: 8/16/2023

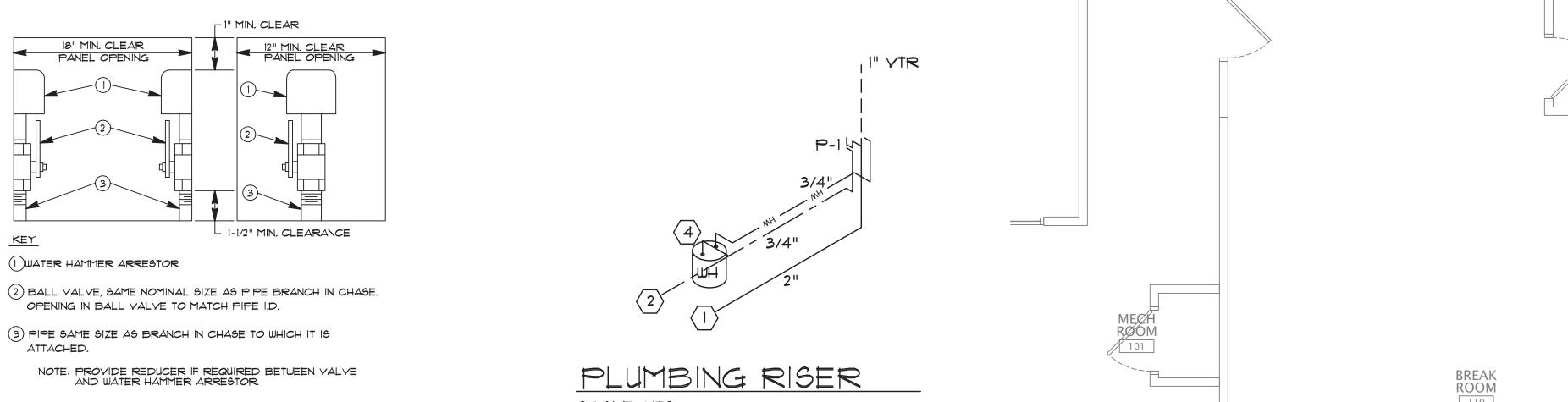
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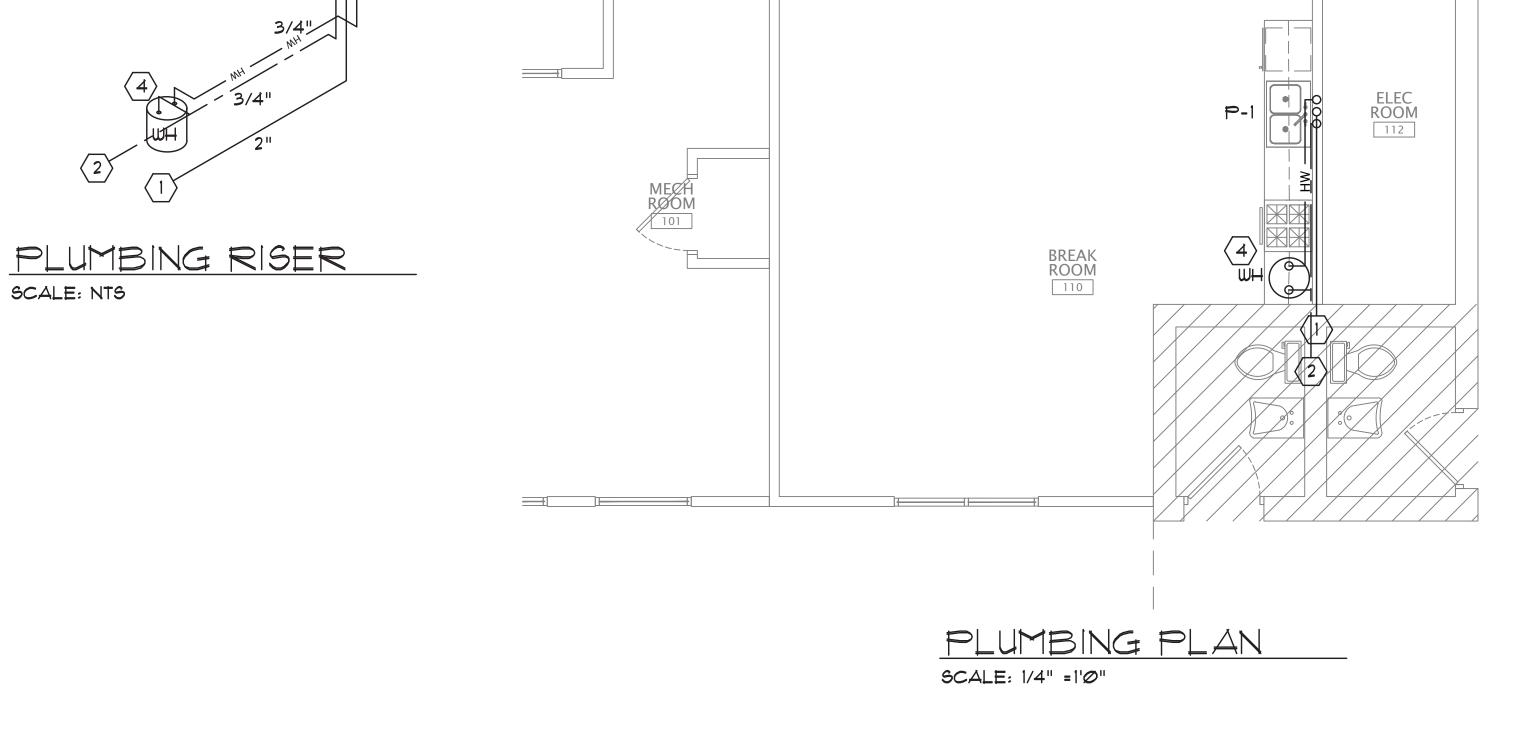
DESIGNED:

Robin Winton, PE

PLUMBING NOTES



TYPICAL WATER HAMMER PANEL INSTALLATION SINGLE AND DOUBLE APPLICATION



## KEYNOTES:

- CONNECT TO EXISTING SANITARY SEWER LINE, FIELD VERIFY EXACT LOCATION AND ROUTING.
- CONNECT TO EXISTING DOMESTIC WATER LINE. FIELD VERIFY EXACT LOCAITONA ND ROUTING.

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- (3) PROVIDE WATER HAMMER.
- (4) REUSE EXISTING WATER HEATER.

IXTURE NO.	FIXTURE	DESCRIPTION	C.W.	H.W.	FCW	FHW	BFP TYPE/ MODEL	WASTE	VENT	TRAP	MOUNTING	RIM HEIGHT	SUPPLY BY	INSTALL BY
P-1	DROP IN SINK	KOHLER VERSE K-5267-4 33X22 STAINLESS STEEL SINK WITH KOHLER TRITON BOWE K-810T70-4AFA FAUCET. SINK TO COME WITH CHROME SUPPLIES STOPS AND P-TRAP. INSTALL UNIVERSAL THERMOSTATIC MIXING VALVE ASSE 1070, SET TEMPERATURE TO 110F	1/2"	1/2"				1 1/2"			DROP IN		PC	P.C.
co	FLOOR CLEAN OUT	PROVIDE IF/AS REQUIRED: J. R. SMITH FIG. 4151 C.I. CLEANOUT WITH GASKET SEAL THREADED PLUG FOR EASY REMOVAL, ADJUSTABLE ROUND NICKEL BRONZE TOP RECESSED FOR TILE WITH SECURING SCREW, SPEEDI-SET OUTLET CONNECTION. CLEANOUTS MUST BE ACCESSIBLE FROM THE SPACE.						3"			FLOOR		P.C.	P.C.
ico	WALL CLEAN OUT							3"			WALL		P.C.	P.C.

Robin

Digitally signed by Robin Winton

Date: 2023.08.16

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Winton Engineering, P.A. Robin Winton, P.E. 2207 WOODBINE DR TALLAHASSEE, FL 32309 850-894-5376 FL **56206** 

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DATE: 8/16/2023

Robin Winton, PE

**PLUMBING** PLAN

P-2.0