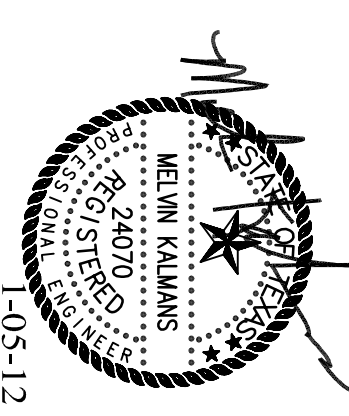


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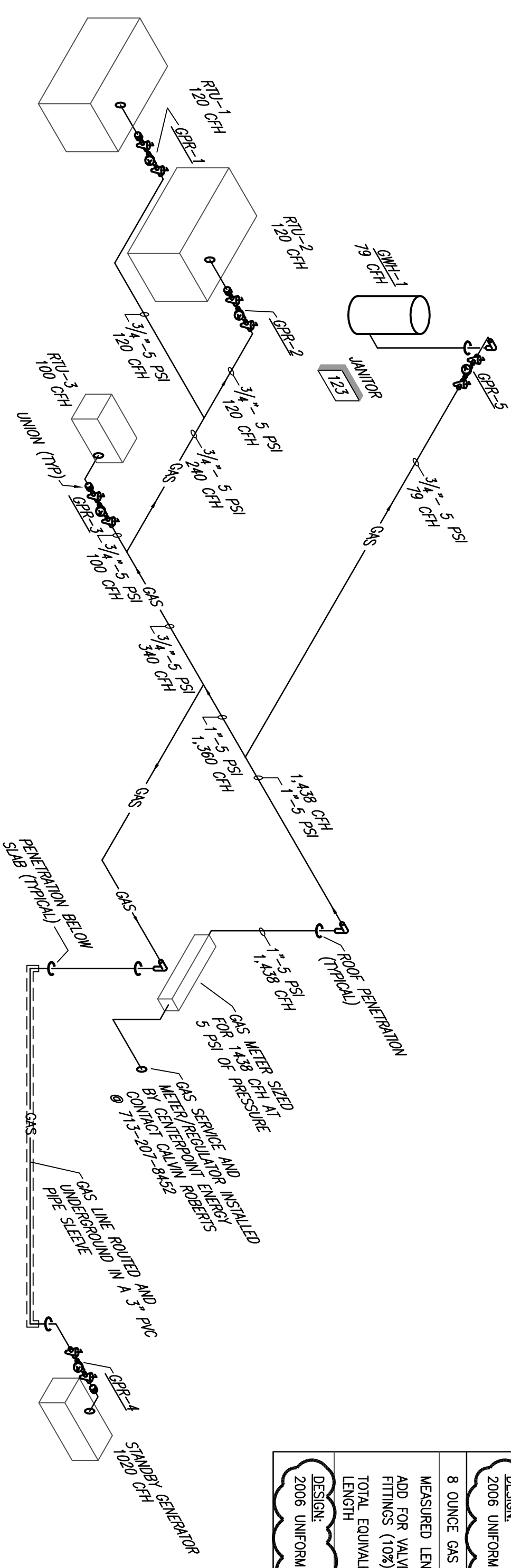


Shaw's Jewelers West Gray 1021 West Gray Ave. Houston, Texas	Shaw's Jewelers 1014 West Gray Street Houston, Texas 77019
DATE: 08.31.2011	PROJECT NO.: 1102100
DRAWN BY: VU	CHECKED BY: KRG

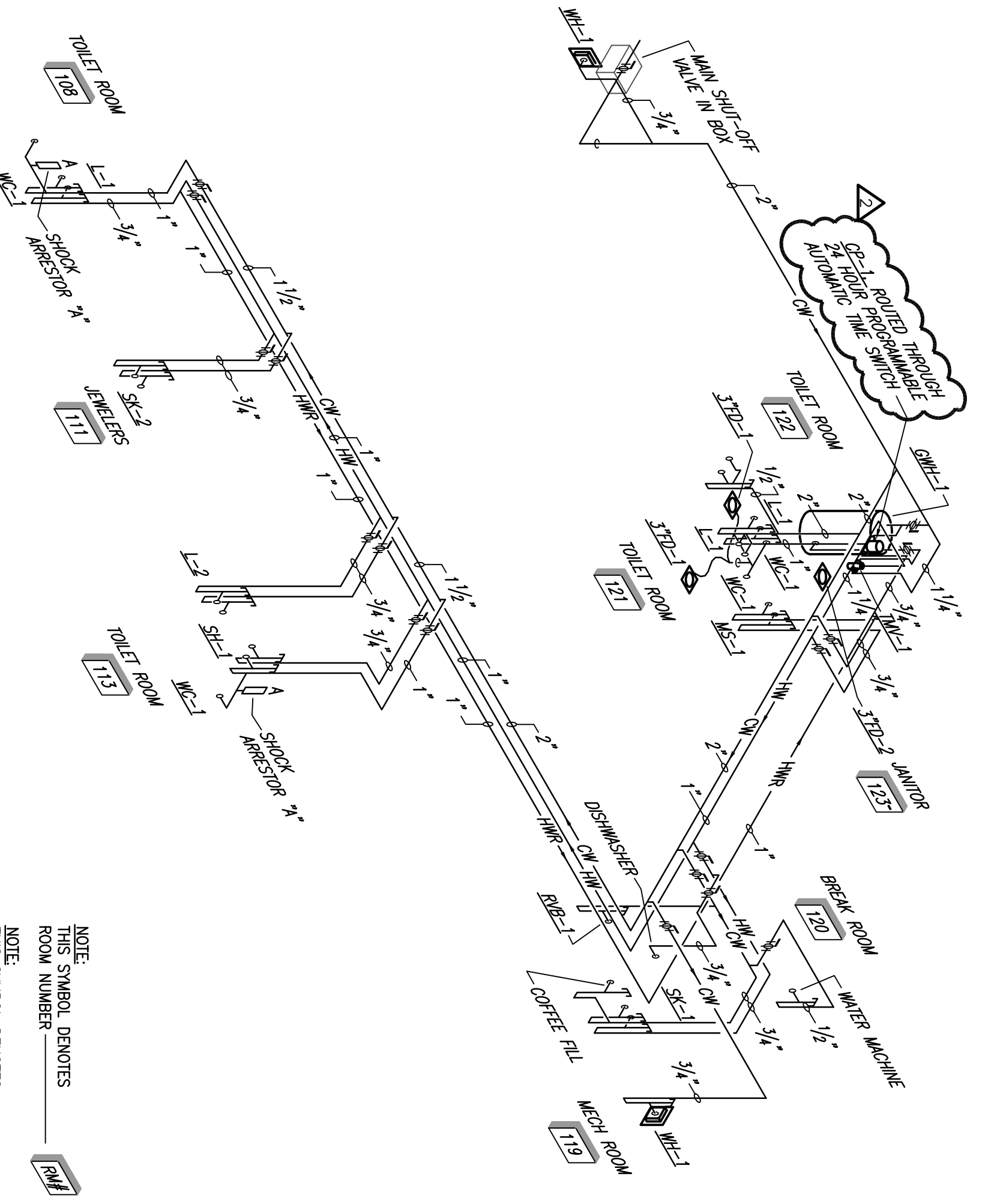
PLUMBING RISER DIAGRAM

P4.01

GAS PIPING CALCULATIONS	
5 PSI GAS	
MEASURED LENGTH	= 96'
ADD FOR VALVES AND FITTINGS (10%)	= 9.6'
TOTAL EQUIVALENT LENGTH	= 105.6'
DESIGN: 2008 UNIFORM PLUMBING CODE	
8 OUNCE GAS	
MEASURED LENGTH	= 19'
ADD FOR VALVES AND FITTINGS (10%)	= 1.9'
TOTAL EQUIVALENT LENGTH	= 20.9'
DESIGN: 2008 UNIFORM PLUMBING CODE	



3 NATURAL GAS RISER DIAGRAM
SCALE: NOT TO SCALE



2 DOMESTIC WATER RISER DIAGRAM
SCALE: NOT TO SCALE

CLEANING, TESTING AND ADJUSTING
THIS CONTRACTOR SHALL FURNISH ALL LABOR, TOOLS, INSTRUCTIONS, AND SUPERVISION REQUIRED TO CLEAN, TEST, AND ADJUST ALL PLUMBING SYSTEMS AND EQUIPMENT NECESSARY TO OPERATION OF ALL FIXTURES AND EQUIPMENT.

ROODING SLEEVES
ALL SANITARY SOIL AND STORM SEWER LINES, BOTH IN THE BUILDING AND OUT SHALL BE ROODED OUT AND FLUSHED OUT AFTER COMPLETION OF CONSTRUCTION AND PRIOR TO FINISH FLOOR BEING INSTALLED. ALL WORK MUST BE COMPLETED PRIOR TO SUBSTANTIAL COMPLETION. ALL FLOOR DRAIN AND CLEANOUT LOCATIONS MUST BE INCLUDED IN THIS WORK.

PIPING INSULATION
ALL COLD WATER PIPING, FITTINGS AND VALVES SHALL BE INSULATED WITH NOMINAL 1" WALL THICKNESS MOLDOCK PIPE INSULATION, OR AN APPROVED EQUAL HAVING FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DENSITY OF 50 OR LESS WHEN TESTED BY ASTM E-814 METHOD.
ALL HOT WATER AND HOT WATER RETURN PIPING, FITTINGS AND VALVES SHALL BE INSULATED WITH NOMINAL 1" WALL THICKNESS MOLDOCK PIPE INSULATION, HAVING A CONDUCTIVITY NOT EXCEEDING 0.28 BTU PER INCH/H X FT² X °F.
MOLDOCK PIPE INSULATION MAY BE SUPPLIED ONTO THE PIPE PRIOR TO CONNECTION OR APPLIED AFTER THE PIPE IS INSTALLED, AT THE CONTRACTOR'S OPTION. ALL BUTT JOINTS AND WELDER JOINTS SHALL BE CLOSED USING MOLDOCK'S FUSE SEAL JOINING SYSTEM OR FACTOR APPROVED CONTACT ADHESIVE. MOLDOCK PIPE INSULATION SHALL BE INSTALLED ACCORDING TO THE PROCEDURES OUTLINED BY THE MANUFACTURER.

FITTING COVER INSULATION SHALL BE FABRICATED AND INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDED PROCEDURES. SWEAT FITTINGS SHALL BE INSULATED WITH CUT PIECES OF MOLDOCK PIPE INSULATION THE SAME SIZE AS ON ADJACENT PIPING. THE INSULATION SHALL BE INSTALLED OVER THE ENTIRE SURFACE OF THE FITTING FROM WELDER JOINTS TO WELDER JOINTS. MOLDOCK PIPE INSULATION SHALL BE MANUFACTURER'S SLEEVING SIZE RECOMMENDATIONS AND SHALL BE OVERLAPPED 2" AND SEALED TO THE ADJACENT PIPE INSULATION. ALL JOINTS AND WELDER BUT PIECES ARE TO BE SEALED USING MOLDOCK'S FUSE SEAL JOINING SYSTEM OR FACTOR APPROVED CONTACT ADHESIVE.

INSTALL THERMAL INSULATION ON CLEAN, DRY SURFACES AFTER ALL TESTING AND INSPECTION IS COMPLETED. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THESE SPECIFICATIONS AND WITH MANUFACTURER'S INSTRUCTIONS.

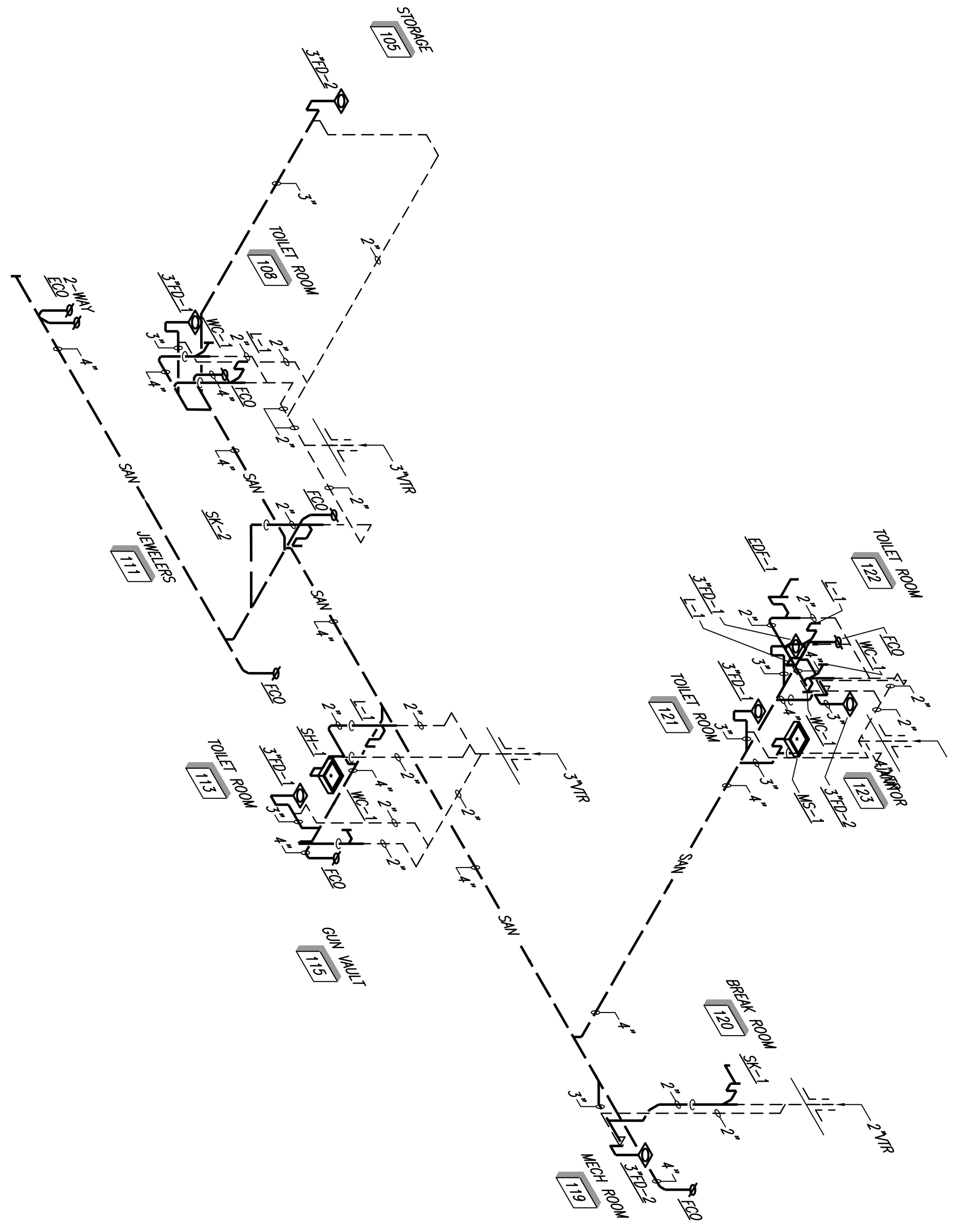
PIPING SLEEVES
ALL COPPER PIPES PASSING THROUGH CONCRETE OR CINDER WALLS AND FLOORS OR OTHER COMPOSITE MATERIAL SHALL BE PROTECTED AGAINST EXTERNAL MECHANICAL DAMAGE BY THE INSTALLATION OF COPPER PIPING SLEEVES THAT WILL WITHSTAND ANY REACTION FROM THE CORROSIVE MATERIAL. MINIMUM WALL THICKNESS OF MATERIAL SHALL BE 0.025 TO 0.0059 INCH.

PLUMBING FIXTURES
PROVIDE PLUMBING FIXTURES AS SPECIFIED OR PROVIDE FIXTURES EQUAL TO THOSE SPECIFIED.

PLUMBING SCOPE & SPECIFICATION

THE WORK OF THIS SECTION SHALL INCLUDE, BUT NOT BE LIMITED TO:

A. A DOMESTIC COLD WATER DISTRIBUTION SYSTEM TO SERVE ALL FIXTURES;
B. A SANITARY SOIL, WASTE AND VENT SYSTEM TO SERVE ALL FIXTURES.
DRAWINGS ARE DIAGRAMMATIC; CONFIRM DIMENSIONS AND LOCATIONS IN THE FIELD. GUARANTEE LABOR AND MATERIALS FOR ONE YEAR.
ADHERE TO APPLICABLE LOCAL CODES AND REGULATIONS, INCLUDING BUT NOT LIMITED TO THE CITY CODES.
PRODUCE RECORD DRAWINGS.
CONTRACTOR SHALL OBTAIN REQUIRED PERMITS AND PAY ALL FEES.
VALVES SHALL BE MANUFACTURED BY NIBCO, HAMMOND, POWELL, STOCKHAM, WATTS OR EQUIPMENT APPROVED BY THE ENGINEER.
BALL VALVES SHALL HAVE CAST BRONZE BODY, BRASS W/PTF E SEALS, FULL SIZE PORT, 5/8" STAINLESS STEEL BALL BEARING SEAT AND THROTTLE VALVES. VALVES 2" AND SMALLER SHALL BE NIBCO T-585-70-66 OR APPROVED EQUIVALENT.
UNIONS
UNIONS IN COPPER OR BRASS LINES SHALL BE BRASS, THREADED PATTERN UNIONS.
EXCAVATION
EXCAVATE TRENCHES FOR UNDERGROUND PIPING TO THE REQUIRED DEPTH.
CUT THE BOTTOM OF THE TRENCH OR EXCAVATION TO UNIFORM GRADE.
SHOULD ROCK BE ENCOUNTERED, EXCAVATE 6" BELOW GRADE, FILL WITH BEDDING MATERIAL (SAND) AND TAMP WELL.
LAY OUT ALIGNMENT OF PIPE TRENCHES TO AVOID OBSTRUCTIONS, PROVIDE ASSURANCE THAT PROPOSED ROUTE OF PIPE WILL NOT INTERFERE WITH BUILDING FOUNDATION BEFORE ARCHITECT/ENGINEER BEFORE PROCEEDING.
BACKFILL
BACKFILL SHALL NOT BE PLACED UNTIL THE WORK HAS BEEN INSPECTED, TESTED AND APPROVED. USE SUITABLE FRAGILE SOILS AS BACKFILL MATERIAL. DO NOT USE PEAT, SILT, MUCK, DEBRIS OR OTHER ORGANIC MATERIALS. DEPOSIT BACKFILL IN UNIFORM LAYERS. PLACE BACKFILL MATERIAL IN UNIFORM LAYERS, 8" MAXIMUM LOOSE MEASURE, COMPACT TO NOT LESS THAN 95% OF MAXIMUM SOIL DENSITY AS DETERMINED BY ASTM D998 STANDARD PROCTOR.
PLUMBING HANGERS
SUPPORT PIPING TO MAINTAIN LINE AND GRADE, WITH PROVISION FOR EXPANSION AND CONTRACTION. USE APPROVED CLEVIS-TYPE OR TRAPEZOID-TYPE HANGERS CONNECTED TO STRUCTURAL MEMBERS OF THE BUILDING. SINGLE PIPE RUNS TO BE SUPPORTED BY TRAPEZOID-TYPE HANGERS. DOUBLE PIPE RUNS TO BE SUPPORTED BY CLEVIS-TYPE OR STRUCTURAL JOIST BRIDGING. REVIEW STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION, WHERE INSULATION OCCURS, DESIGN HANGERS TO PROTECT INSULATION FROM DAMAGE. MAXIMUM SPACING SHALL BE 10 FEET.



1 SANITARY AND VENT RISER DIAGRAM
SCALE: NOT TO SCALE

K&E PROJECT # 090019

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