

SECTION 15400 - PLUMBING

- SCOPE OF WORK
  - FURNISHING OF ALL LABOR, MATERIALS, TOOLS, TRANSPORTATION SERVICES, ETC. NECESSARY TO COMPLETE THE INSTALLATION OF THE PLUMBING SYSTEM AND AS DESCRIBED IN THESE SPECIFICATIONS, AS ILLUSTRATED ON THE ACCOMPANYING DRAWINGS, OR AS DIRECTED BY THE ARCHITECT.
  - ALL HOT AND COLD WATER SYSTEMS WITH COMPLETE CONNECTIONS FROM THE WATER METER TO ALL PLUMBING FIXTURES AND EQUIPMENT REQUIRING WATER CONNECTIONS. THESE SYSTEMS WILL BE COMPLETE WITH CONTROLS, VALVES, EQUIPMENT, DEVICES AND INSULATION.
  - ALL SOL, WASTE, AND VENT SYSTEMS OUTSIDE AND INSIDE THE BUILDING AND SEWER CONNECTIONS TO MUNICIPAL SYSTEM AS INDICATED ON DRAWINGS.
  - FURNISH AND SET PLUMBING FIXTURES, INCLUDING ALL THE REQUIRED TRIM AND SUPPORTS.
  - TRENCHING, PIPE BEDDING, BACKFILLING, COMPACTION AND SOIL TREATMENT.
  - ALL ROUGH-IN AND FINAL CONNECTION TO EQUIPMENT, FIXTURES AND SERVICE AREAS IF INDICATED ON THE DRAWINGS, INCLUDING NECESSARY TRAPS AND MISCELLANEOUS ITEMS AS REQUIRED, COORDINATE WITH OWNER.
  - FURNISH ALL FINAL PLUMBING CONNECTIONS TO HEATING AND AIR CONDITIONING EQUIPMENT INCLUDING CONDENSATE DRAINS, INDIRECT WASTE AND GAS PIPING.
  - METERS AND UTILITY CONNECTIONS.
    - WATER: COORDINATE WORK WITH THE LOCAL WATER COMPANY. FURNISH ALL LABOR AND/OR MATERIAL (NOT FURNISHED BY THE WATER COMPANY) WHICH IS REQUIRED TO CONNECT TO EXISTING LINE AND/OR SET METER. INSTALL ALL PERMANENT WATER SUPPLY LINES FROM THE POINT OF CONNECTION AND COMPLETE THE WORK AS SHOWN. ALL LINES FROM THE POINT OF CONNECTION AND COMPLETE THE WORK AS SHOWN. ALL ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL WATER COMPANY. TAP FEES SHALL BE PAID BY OWNER. (IF REQUIRED) PLUMBING CONTRACTOR SHALL PAY ALL WORK RELATED INSPECTION FEES BY AUTHORITY HAVING JURISDICTION.
    - SEWER CONNECTIONS: COORDINATE WORK WITH THE LANDLORD AND/OR LOCAL UTILITY COMPANY. ALL WORK AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL GOVERNING AUTHORITY. TAP FEES SHALL BE PAID BY OWNER. (IF REQUIRED) PLUMBING CONTRACTOR SHALL PAY ALL WORK RELATED INSPECTION FEES BY AUTHORITY HAVING JURISDICTION (IF REQUIRED).
    - GAS: COORDINATE WORK WITH LOCAL UTILITY AND FURNISH ALL LABOR AND/OR MATERIALS (NOT FURNISHED BY UTILITY WHICH IS REQUIRED TO PROVIDE A WORKING UTILITY FOR OWNER, INCLUSIVE OF METER AND/OR REGULATOR. FURNISH SYSTEM FROM TAPPING POINT TO AND IN THE BUILDING AS REQUIRED AND SHOWN ON DRAWINGS. TAP FEES SHALL BE PAID BY OWNER. PLUMBING CONTRACTOR SHALL PAY ALL WORK RELATED INSPECTION FEES.
    - GAS PIPING TO HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT, AND WATER HEATER.

- SHOP DRAWINGS
  - WITHIN 15 DAYS AFTER AWARD OF CONTRACT, AND BEFORE ANY PLUMBING MATERIALS ARE DELIVERED TO THE JOB SITE. SUBMIT TO THE OWNER THREE (3) COMPLETE SHOP DRAWINGS IN ACCORDANCE WITH THE PROVISIONS OF SECTION 01300 OF THESE SPECIFICATIONS, INCLUDING ALL PLUMBING FIXTURES, TRIM, DRAINS, CLEANOUTS, PIPING, VALVES, INSULATION, HANGERS, SUPPORTS, EQUIPMENT AND DEVICES PROPOSED TO BE FURNISHED AND INSTALLED. SHOP DRAWINGS SHALL NOT BE RECEIVED UNLESS THEY BEAR THE REVIEW STAMP OF THE GENERAL CONTRACTOR.

- PRODUCT HANDLING
  - IN THE EVENT OF DAMAGE, IMMEDIATELY MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY TO THE APPROVAL OF, AND AT NO ADDITIONAL COST TO THE OWNER.
- EXAMINATION OF THE SITE
  - ALL CONTRACTORS SUBMITTING PROPOSALS FOR THIS WORK SHALL FIRST EXAMINE THE SITE AND ALL CONDITIONS, INCLUDING LOCAL RULES & REGULATIONS, THEREON AND/OR THEREIN. ALL PROPOSALS SHALL HAVE TAKEN INTO CONSIDERATION ALL CONDITIONS THAT MAY AFFECT THE WORK UNDER THIS CONTRACT. LACK OF THIS INFORMATION WILL NOT BE CONSIDERED AS JUSTIFICATION FOR EXTRA COST OR ALLOWANCES TO THE CONTRACT PRICE.

- GUARANTEE
  - ALL WORK PERFORMED UNDER THIS SECTION SHALL BE GUARANTEED TO BE FREE OF DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE WORK BY THE OWNER.
  - UPON NOTICE RECEIVED FROM THE OWNER, ARCHITECT OR ENGINEER, OF FAILURE OF ANY PART OF THE GUARANTEED EQUIPMENT DURING THE AFFECTED PERIOD, THE AFFECTED PART OR PARTS SHALL BE PROMPTLY REPLACED WITH NEW PARTS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. ALL LABOR REQUIRED TO PERFORM GUARANTEED SHALL BE INCLUDED AS PART OF THE COMPLETE WARRANTY.

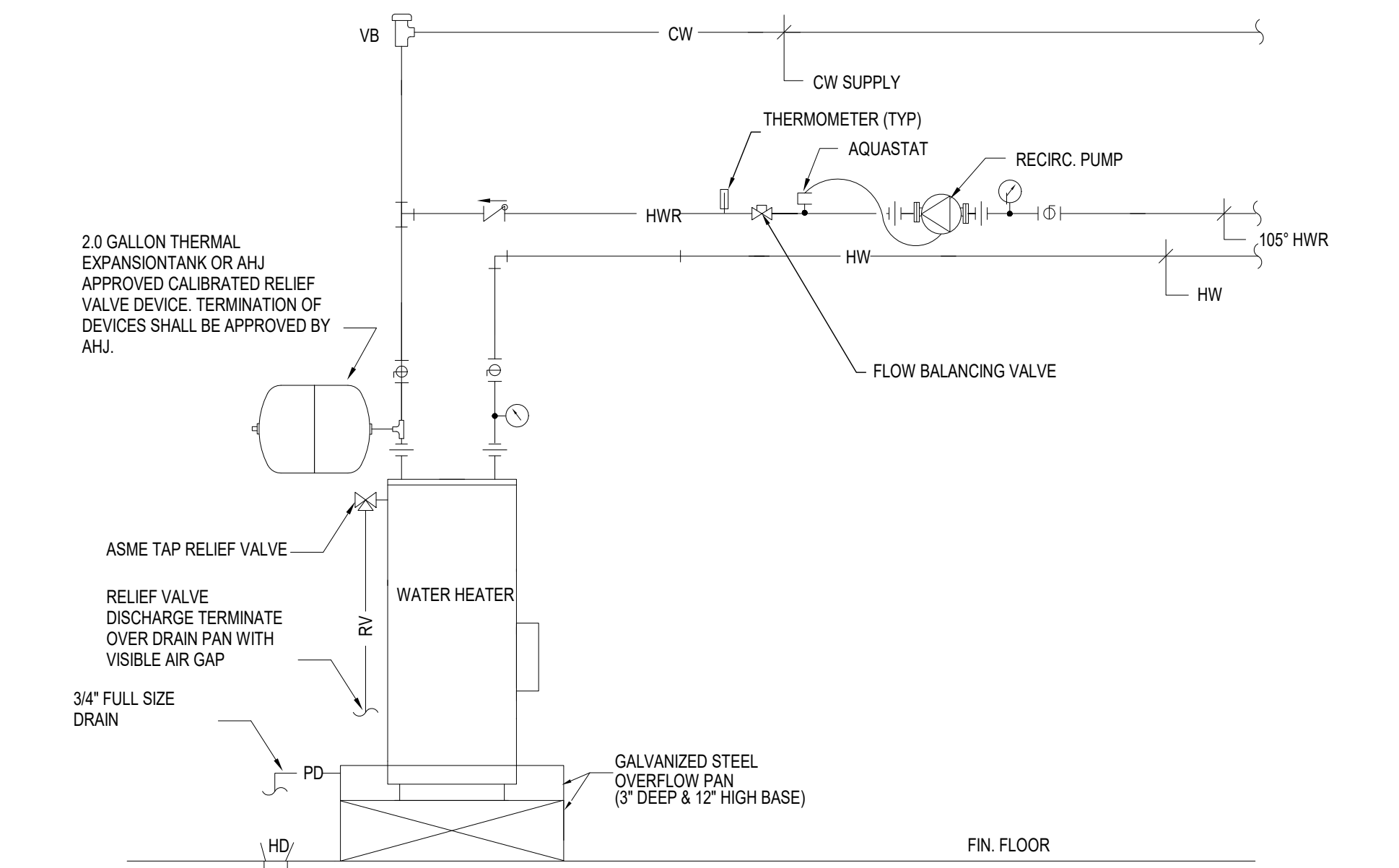
- PRODUCTS
  - DESCRIPTION
    - SOL, WASTE AND VENT PIPING: BELOW FLOOR TO 5'0" OUTSIDE BUILDING AND YARD PIPING SHALL BE A.B.S. OR P.V.C. SCHEDULE 40 PIPE AND FITTINGS IF APPROVED BY LOCAL AUTHORITY. OR STANDARD WEIGHT COATED CAST IRON SOIL PIPE AND CAST IRON/NEOPRENE GASKET FITTINGS CONFORM TO ONE OF THE STANDARDS LISTED IN TABLE 702.2 OF FPCP (6TH EDITION). YARD PIPING, WHERE UNDER A SUPERIMPOSED LOAD CONDITION SUCH AS A DRIVEWAY OR PARKING AREA, SHALL BE SERVICE WEIGHT CAST IRON SOIL PIPE AND CAST IRON/NEOPRENE GASKET FITTINGS.
    - ABOVE FLOOR SHALL BE A.B.S. OR P.V.C. SCHEDULE 40 IF APPROVED BY LOCAL AUTHORITY, OR STANDARD WEIGHT COATED CAST IRON PIPE WITH COPPER/NEOPRENE RUBBER GASKETS, OR UNLESS CAST IRON PIPE WITH NEOPRENE RUBBER GASKETS AND STAINLESS STEEL CLAMPS (CLAMPS ALL OR EQUAL) CONFORM TO ONE OF THE STANDARDS LISTED IN TABLE 702.1 OF FPCP (6TH EDITION).
    - HOT AND COLD WATER PIPING: ABOVE THE FLOOR SHALL BE TYPE "L" COPPER WITH 95% SWEAT SOLDERED AND WROUGHT COPPER FITTINGS. UNDER BUILDING SLABS SHALL BE TYPE "K" SOFT DRAWN COPPER TUBING WITHOUT JOINTS UNDER FLOOR. LOOP FROM WALL TO WALL OR FROM WALL TO PIPING CONFORM TO ONE OF THE STANDARDS LISTED IN TABLE 605.3 AND 605.4 OF FPCP (6TH EDITION) BASED ON TEMPERATURE. ALL "H" HOT WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE MINIMUM PRESSURE RATING OF 100 PSI AT 180°F.
    - CONDENSATE DRAIN PIPING
      - CONDENSATE DRAIN PIPING SHALL BE GALVANIZED SCHEDULE 40 OR P.V.C. FROM HVAC ON ROOF AND OTHER EQUIPMENT UNLESS STATED OTHERWISE.
      - CONTRACTOR SHALL FURNISH AND INSTALL MIN. 1" COPPER CONDENSATE DRAINS ON COOLER/FREEZER EVAPORATOR COILS, WITH TRAP ASSEMBLY AND 2" AIR GAP ABOVE DRAIN AS SHOWN ON THE DRAWINGS. FREEZER CONDENSATE PIPING SHALL BE WRAPPED WITH HEAT TAPE WITH A MINIMUM RATING OF 10 WATTS PER LINEAL FOOT FOR ITS ENTIRE LENGTH WITHIN THE FREEZER COMPARTMENT.
      - INDIRECT WASTE PIPING: SHALL BE TYPE "L" COPPER WITH 95% SWEAT SOLDER AND WROUGHT COPPER FITTINGS. (SEE PLUMBING PLAN FOR REQUIREMENTS) UNLESS OTHERWISE INDICATED.
    - NATURAL GAS PIPING
      - GAS PIPING INCLUDING TAP AND SERVICE SHALL BE INCLUDED. COORDINATE METER LOCATION WITH LOCAL AUTHORITY.
      - UNDERGROUND GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH LONG RADIUS STEEL WELDING FITTINGS. PROTECT PIPE AND FITTINGS WITH TRANTEX WRAPPING TAPE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. OTHER TYPE OF PIPE PROTECTION OF EQUIVALENT QUALITY WILL BE OPTIONAL WITH THIS CONTRACTOR. INSTALLATION OF GAS SERVICE PIPING AND MATERIAL SHALL MEET WITH LOCAL GAS COMPANY'S APPROVAL.
      - GAS PIPING ABOVE GROUND SHALL BE SCHEDULE 40 BLACK STEEL WITH 125 LB. BLACK MALLEABLE IRON SCREWED FITTINGS AND SUPPORTED AT INTERVALS NOT TO EXCEED 8'-0" AND AT EACH CHANGE IN HORIZONTAL OR VERTICAL DIRECTION. GAS PIPING COMPOND AT JOINTS SHALL BE IN COMPLIANCE WITH NFPA BULLEIN NO. 54 AND LOCAL APPLICABLE CODES AND SUITABLE FOR NATURAL GAS SERVICE.
      - GAS PIPING SHALL SUPPLY, WATER HEATER AND KITCHEN EQUIPMENT IF INDICATED ON DRAWINGS BY THIS CONTRACTOR.
      - MOISTURE TRAPS SHALL BE INSTALLED ON EACH PIPING DROP FOR WATER HEATER AND KITCHEN EQUIPMENT. ALL SUPPORTS SHALL BE PIPING SHALL BE PROVIDED WITH SUPPORT IN ACCORDANCE WITH SECTION 407 AND 415 FBCFG (6TH EDITION).
    - GROMM DRAM LEADER. SAME AS SOL, WASTE & VENT PIPING.
    - INSULATION: ALL WATER PIPES, RAIN LEADERS AND ETC. SHALL BE INSULATED. PIPING SHALL BE INSULATED TO PREVENT EXCESSIVE HEAT LOSS, CONDENSATION AND SWEATING. ALL PIPES RUNNING IN UNCONDITIONED SPACE SHALL BE PROTECTED AGAINST FREEZING. ALL PIPING SHALL BE INSULATED WITH AT LEAST 1" THICK FOAM INSULATION HAVING A CONDUCTIVITY NOT EXCEEDING 0.28 BTU PER INCH-H x50 FT PER FBCEC (6TH EDITION) SECTION C404.4 AND FBCP (6TH EDITION) SECTION 601.5. AS MANUFACTURED BY ARMSTRONG ARMAPLEX OR APPROVED EQUAL AS INDICATED ON PLANS AND NOTES. AS MUCH OF THE INSULATION AS POSSIBLE SHALL BE SLIPPED ON TO THE PIPING AS THE PIPING IS BEING CONNECTED IN ORDER TO AVOID CUTTING THE INSULATION. ALL BUTT ENDS AND ANY NECESSARY LONGITUDINAL JOINTS SHALL BE SEALED WITH RUBBER BASED ADHESIVE.

- FIXTURES
  - SEE DRAWINGS FOR SPECIFICATIONS.
- FLASHINGS
  - ALL PIPING AND VENTS PASSING THROUGH ROOF SHALL BE FLASHED WATER TIGHT WITH SIX POUND TO THE SQUARE FOOT LEAD USING SLEEVE FLASHING WITH BASE EXTENDING AT LEAST 12 INCHES IN EACH DIRECTION BEYOND THE OUTSIDE DIAPHRAGM OF THE PIPE. TURN SLEEVE DOWN A MINIMUM OF 1/2" INTO TOP OF VENT PIPE WITH LEAD FITTING SNIUGLY INSIDE OF PIPE. ALL GAS VENT CAPS SHALL BE 11" INTO TOP OF LEAD FITTING SNIUGLY INSIDE OF PIPE. ALL VENT CAPS SHALL BE VANDAL PROOF. VERIFY APPROVED FLASHING MATERIAL AND METHODS WITH ROOFING CONTRACTOR TO ENSURE A COMPLETE JOB. SEE DETAILS ON ARCH. SHEETS.
- CLEANOUTS
  - SEE DRAWINGS FOR SPECIFICATIONS.
- EQUIPMENT
  - WATER HEATER: FURNISHED, INSTALLED BY PLUMBING CONTRACTOR.
    - SIZE, CAPACITY, TYPE AND MANUFACTURER AS INDICATED BY DRAWINGS.
    - N/A
    - THE WATER HEATER, GAS OR ELECTRIC, SHALL BE PROVIDED WITH ALL TEMPERATURE AND SAFETY CONTROLS INCLUDING ASME AND ANSI Z21.22 RATED TEMPERATURE CONFORM TO ASSE 1070 AND PRESSURE RELIEF VALVE, GAS PRESSURE REGULATOR (IF REQUIRED), DRAIN VALVE, EXPANSION TANK, ETC.
    - PLUMBER SHALL MAKE WATER, GAS AND RELIEF LINE CONNECTIONS WITH CUTOFF VALVES AND DIELECTRIC UNIONS IN WATER AND GAS LINES.
  - VALVES: COOKS AND FAUCETS
    - UNLESS SPECIFICALLY INDICATED ELSEWHERE, THE VALVES SHALL BE DESIGNED FOR NOT LESS THAN 160 LBS WORKING PRESSURE AND SHALL COMPLY WITH SECTION 606 OF FBCP (6TH EDITION) 2017. THE VALVES SHALL HAVE SUITABLE VALVE BODY PATTERNS FOR CONNECTION TO THE PIPE FOR WHICH THEY WILL OPERATE. ALL VALVES WITH RISING STEMS SHALL HAVE BACK SEATS FOR PACKING UNDER PRESSURE. ALL VALVES AND CONNECTIONS SHALL BE CONSTRUCTED WITH MATERIAL COMPLY WITH LEAD CONTENT STANDARD PER SECTION 605.1 OF FBCP (6TH EDITION) 2017. APPROVED EQUAL GATE VALVES AND CHECK VALVES AS MANUFACTURED BY STOCKHAM, WALWORTH, LUNKENHEIMER, SCOTT, HAMMOND, CRANE OR WATTS WILL BE ACCEPTABLE.
    - GATE VALVES SHALL BE OF AN APPROVED TYPE AND COMPATIBLE WITH THE TYPE OF PIPING MATERIAL INSTALLED IN THE SYSTEM. ALL VALVES INTENDED TO SUPPLY DRINKING WATER SHALL MEET THE REQUIREMENTS OF NSF 61.
    - CUTOFF VALVES UNDERNEATH LAVATORIES, TANK TYPE WATER CLOSETS, SANITARY SINKS AND WATER COOLERS SHALL BE CHROME PLATED ANGLE STOP VALVES WITH SOFT ANNEALED CHROME PLATED COPPER CONNECTION PIPES AND CHROME PLATED ESCUTCHEON PLATES.
    - GAS COOKS FOR ALL EQUIPMENT: SEE DRAWINGS FOR REQUIREMENTS.
    - WATER CUTOFF VALVE SHALL BE OF AN APPROVED TYPE AND COMPATIBLE WITH THE TYPE OF PIPING MATERIAL INSTALLED IN SYSTEM. ALL VALVES INTENDED TO SUPPLY DRINKING WATER SHALL MEET THE REQUIREMENTS OF NSF61.
    - EXTERIOR HOSE COOKS AND VALVE FIXTURES TO BE NON-FREEZE TYPE. SUPPLY SHUT-OFF VALVES IF INDICATED ON PLANS.

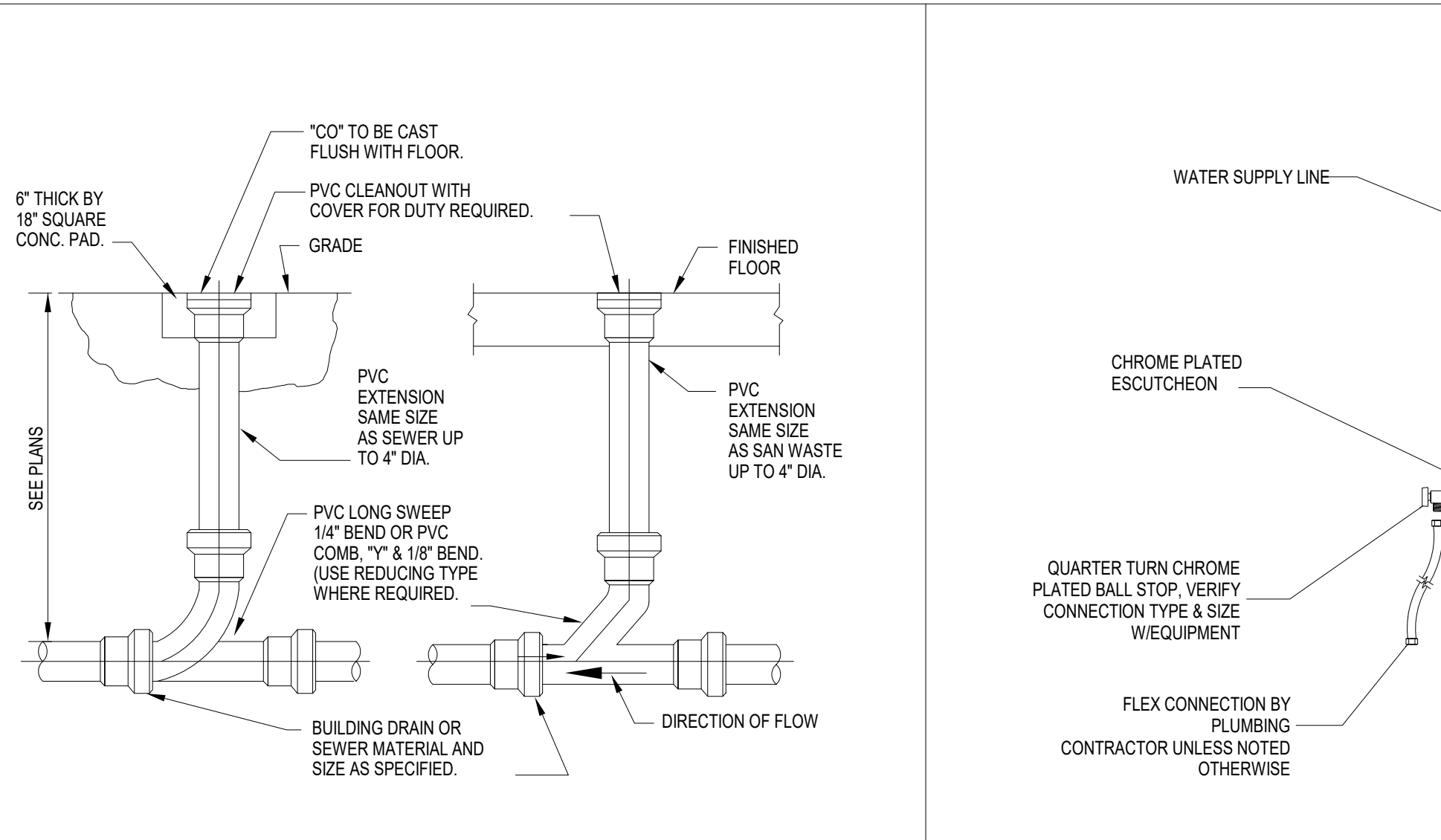
- EXECUTION
  - PIPING
    - ALL PIPING SHALL BE RUN CONCEALED EXCEPT WHERE SHOWN OTHERWISE ON DRAWINGS.
    - VALVES, TRAPS, CLEANOUTS AND OTHER APPARATUS SHALL BE INSTALLED IN AN EASILY ACCESSIBLE LOCATION.
    - SOL, WASTE LINES 1/2" AND SMALLER SHALL SLOPE 1/4 INCH PER LINEAL FOOT AND 3/8" SHALL SLOPE 1/8 INCH PER LINEAL FOOT IN DIRECTION OF FLOW PER FBCP TABLE 704.1, UNLESS OTHERWISE INDICATED OR REQUIRED BY LOCAL CODES.
    - HOT AND COLD WATER LINES SHALL BE AT LEAST 6" APART WHERE PIPING IS PARALLEL.
    - ALL WATER LINES SHALL BE RUN OVERHEAD AND DOWN PARTITION WALLS UNLESS, NO WALL IS PROVIDED, THEN RUN LINES UNDER SLAB TO POINT OF TERMINATION. ALL LINES SHALL BE CONCEALED UNLESS NOTED OTHERWISE ON PLANS.
  - HANGERS AND SUPPORTS
    - COPPER PIPING SHALL BE SUPPORTED AT INTERVALS NOT TO EXCEED 7'-0" AND AT EACH CHANGE IN HORIZONTAL OR VERTICAL DIRECTION. HANGERS SHALL BE FEE & MASON PLASTIC COATED HANGER, FIG. 381 OR APPROVED EQUAL BY GRINNELL. HANGER ATTACHMENT TO STRUCTURE SHALL BE AS REQUIRED. HORIZONTAL SUPPORTS FOR PIPING SHALL WILL BE ACCORDANCE TO SECTION 510 OF THE FBCP (6TH EDITION).
    - GAS PIPING SHALL BE SUPPORTED AT INTERVALS NOT TO EXCEED 8'-0" AND AT EACH CHANGE IN HORIZONTAL OR VERTICAL DIRECTION. STEEL PIPE HANGERS SHALL BE GRINNELL FIG. 104 OR FEE & MASON FIG. 199. ATTACHMENT TO STRUCTURE TO BE AS REQUIRED. HORIZONTAL SUPPORT FOR PIPING WILL BE IN ACCORDANCE TO SECTION 407 AND 415 OF FBCFG (6TH EDITION).
    - HANGER RODS SHALL BE STANDARD BOLT STEEL WITH MACHINE SCREW THREADS, 3/8" DIAMETER MINIMUM.
    - ALL PIPING UNDERGROUND SHALL BE FIRMLY BEDDED ON THE BODY OF THE PIPE AND BELL HOLES PROVIDED AT EACH BELL. ALL PIPING SHALL BE INSTALLED IN GRADED TRENCH, EXCAVATE, BACKFILL AND SUPPORT PIPING AS HEREIN BEFORE SPECIFIED.
  - FINISHED
    - INDOOR FINISHES
      - HANGERS AND CLAMPS FOR SUPPORT OF BARE COPPER PIPING SHALL BE COATED WITH COPPER COLORED EPOXY PAINT, BLUNE DURA-COPPER. ADDITIONAL PVC COATING OF THE EPOXY PAINTED HANGER SHALL BE USED WHERE NECESSARY.
      - HANGERS FOR OTHER THAN BARE COPPER PIPE SHALL BE ZINC PLATED IN ACCORDANCE WITH ASTM B833 OR SHALL HAVE AN ELECTRO-DEPOSITED GREEN EPOXY FINISH, BLUNE DURA-GREEN.
      - STRUT CHANNELS SHALL BE PRE-GALVANIZED IN ACCORDANCE WITH ASTM A653 SS GRADE 30 OR HAVE AN ELECTRO-DEPOSITED GREEN EPOXY FINISH, BLUNE DURA-GREEN.
      - OUTDOOR AND CORROSIVE AREA FINISHES
        - HANGERS AND STRUT LOCATED OUTDOORS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123. ALL HANGER HARDWARE SHALL BE HOT DIP GALVANIZED OR STAINLESS STEEL. ZINC PLATED HARDWARE IS NOT ACCEPTABLE FOR OUTDOOR OR CORROSIVE USE.
        - HANGERS AND STRUT LOCATED IN CORROSIVE AREAS SHALL BE TYPE 304 (316) STAINLESS STEEL WITH STAINLESS STEEL HARDWARE.

- PLUMBING FIXTURES
  - FURNISH AND INSTALL ALL PLUMBING FIXTURES COMPLETE WITH ALL EQUIPMENT FITTINGS, TRIMMINGS AND ACCESSORIES, AS SPECIFIED. OPEN FRONT SEATS WITH NO COVERS AS MANUFACTURED BY CHURCH WILL BE ACCEPTABLE.
  - ALL FIXTURES SHALL BE GRADE A, THE NAME OR TRADE MARK OF THE MANUFACTURER SHALL BE PRINTED OR PRESSED ON ALL CLOSETS AND LAVATORIES, AND A LABEL, WHICH CANNOT BE REMOVED WITHOUT DESTROYING IT, CONTAINING THE MANUFACTURER'S NAME OR TRADEMARK AND THE QUALITY OR CLASS OF THE FIXTURES, SHALL BE AFFIXED TO ALL FIXTURES AND NOT REMOVED UNTIL AFTER THE WORK HAS BEEN ACCEPTED.
  - EXPOSED PIPING TO FIXTURES SHALL BE A PRODUCT OF THE FIXTURE MANUFACTURER OR APPROVED EQUAL AND SHALL BE
    - WATER: CHROMIUM PLATED IRON PIPE SIZE RED BRASS.
    - WASTE: CHROMIUM PLATED TUBING, EXCEPT WASTE CONNECTIONS TO KITCHEN OR SULLERY SINKS AS NECESSARY.
  - STOPS AS MANUFACTURED BY THE FIXTURE MANUFACTURER, WITH METAL-TO-METAL SEAT, SHALL BE PROVIDED FOR ALL FIXTURES AND EQUIPMENT. REFER TO SCHEDULE ON DRAWINGS FOR MANUFACTURERS AND MODEL NUMBERS USED AS GUIDE SPECIFICATIONS. NUMBERS AS LISTED REPRESENT THE COMPLETE WORKABLE OUTFITS WITH ALL BRASS TRIM AS
  - FIXTURES SHALL BE WHITE UNLESS OTHERWISE NOTED.
  - FIXTURES FURNISHED BY THE CONTRACTOR OR BY THE OWNER SHALL BE FITTED WITH NECESSARY WATER SUPPLIES, STOPS AND TRAPS WITH CLEANOUT PLUGS UNDER THE SPECIFICATIONS.
- TESTS
  - THE PERMIT HOLDER SHALL MAKE THE APPLICABLE TEST PROCEDURE IN SECTIONS 312.2 THROUGH 312.10 TO DETERMINE COMPLIANCE WITH THE PROVISIONS OF FBCP (6TH EDITION). ALL PLUMBING SYSTEM PIPING SHALL BE TESTED WITH EITHER WATER OR, FOR PIPING SYSTEM OTHER THAN PLASTIC, BY AIR.
- CLEANING AND PROTECTION
  - THE CONTRACTOR SHALL REMOVE FROM THE JOB SITE ALL DEBRIS AND LEFTOVER MATERIALS FOR WHICH HE IS RESPONSIBLE. CLEAN ALL FIXTURES AND EQUIPMENT AND REPAIR ANY BLEMISHES IN THE FINISH. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR REPLACING FIXTURES WHERE DAMAGE RESULTS FROM FAILURE TO PROVIDE PROTECTION DURING INSTALLATION.
  - FLUSH OUT PIPES AFTER THE PLUMBING PIPING HAS BEEN INSTALLED, INSPECTED AND APPROVED. THE PIPING SYSTEM SHALL BE FLUSHED TO REMOVE ANY DEBRIS FROM THE PIPES WITH CHLORINE OR HTH SOLUTION TO SANITIZE THE NEW PIPING OR AS REQUIRED BY THE LOCAL AUTHORITIES PER SECTION 610 FBCP (6TH EDITION).
- MAINTENANCE
  - ALL PARTS OF THE PLUMBING FIXTURES AND ASSOCIATED EQUIPMENT SHALL BE MAINTAINED BY THE CONTRACTOR OR THROUGHOUT THE GUARANTEE PERIOD, ONE MONTH AFTER FINAL ACCEPTANCE OF THE BUILDING BY THE OWNER. THE CONTRACTOR SHALL GO OVER ALL THE FIXTURES AND TEST ALL WORKING PARTS AND PUT EVERYTHING IN GOOD WORKING ORDER. ALL FIXTURES, INCLUDING TRAPS, SHALL BE THOROUGHLY CLEANED AND ALL PARTS PUT IN GOOD WORKING ORDER.
  - PLUMBING CONTRACTOR IS REQUIRED TO CLEAN THE DRAIN LINES PRIOR TO TURN OVER.
  - PLUMBING CONTRACTOR SHALL PROVIDE REDUCED PRESSURE BACK FLOW PREVENTION DEVICE ON THE MAIN DOMESTIC PIPING CONFORM TO SECTION 608 FBCP (6TH EDITION).
  - CONTRACTOR SHALL PROVIDE BACK FLOW PREVENTION DEVICE FOR DISHWASHER, ICE MAKER AND SODA MACHINE PER FBCP (6TH EDITION) SECTION 608. FOR D.W. APPROVED BY ASSE 1001, FOR ICE MAKER APPROVED BY ASSE 1024 AND FOR SODA MACHINE SHALL BE APPROVED BY ASSE 1022.

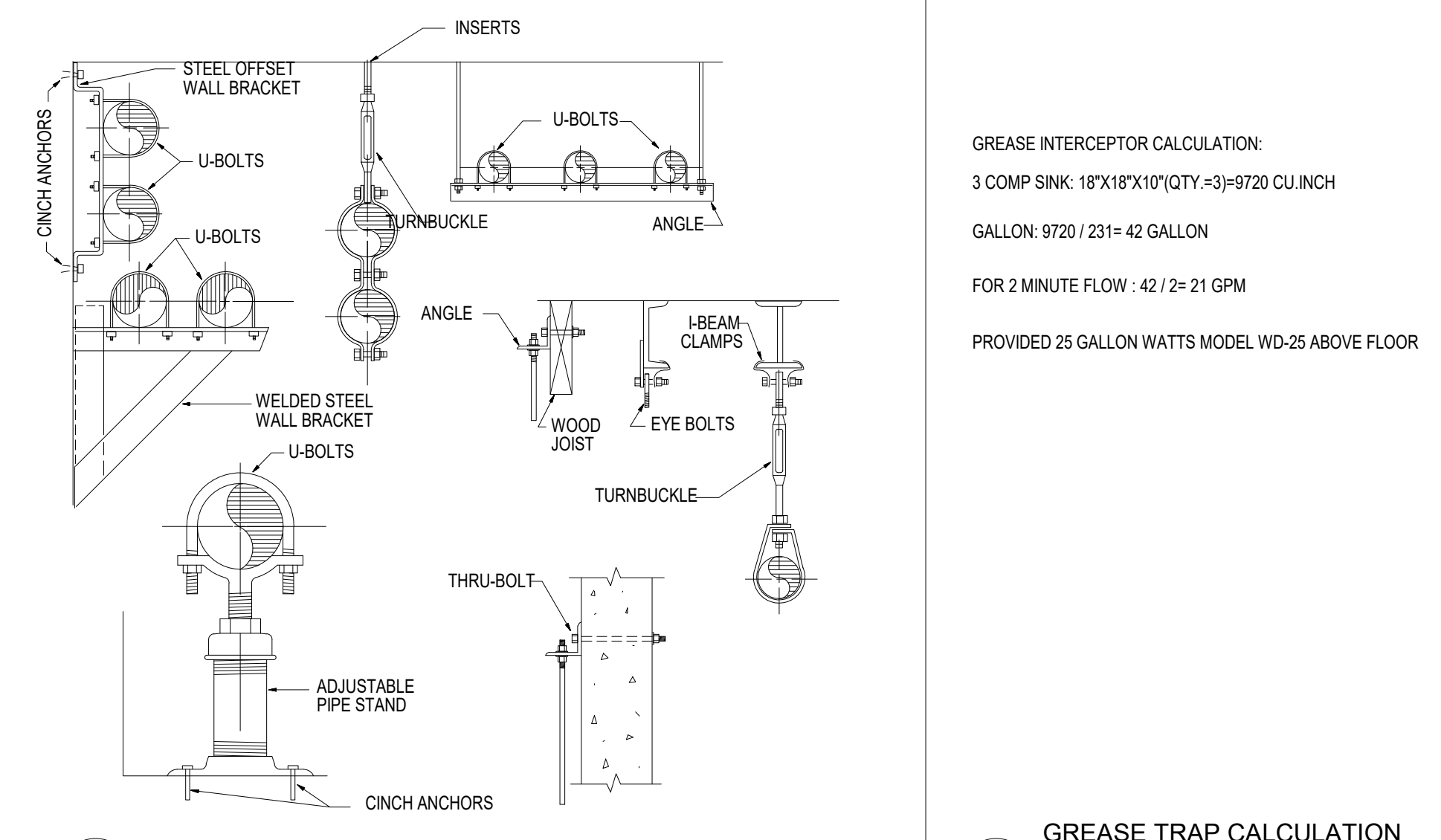
- GENERAL NOTES
- IT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO REVIEW THE PLUMBING PLANS AND WRITTEN SPECIFICATIONS TO BECOME FAMILIAR WITH THE FULL SCOPE OF WORK. IN ADDITION, THIS CONTRACTOR SHALL COORDINATE WITH AN OWNER REPRESENTATIVE TO FULLY UNDERSTAND ANY REQUIREMENTS NOT SPECIFIED HEREIN WHICH MAY CONSIDER PART OF THIS CONTRACT. THE PLUMBING CONTRACTOR SHALL VISIT THE SITE AND NOTE ALL EXISTING.
  - CONDITIONS, AS WELL AS ALL CONDITIONS TO BE MET. LACK OF THOROUGH UNDERSTANDING SHALL NOT CONSTITUTE AN EXCUSE FOR ERRORS OR OMISSIONS, NOR FOR A REQUEST FOR EXTRA COMPENSATION.
  - THE CONTRACTOR FOR THIS WORK SHALL CAREFULLY INSPECT AND ACQUANT HIMSELF WITH EXISTING CONDITIONS IN ORDER THAT HE FULLY UNDERSTANDS THE WORK REQUIRED. HE SHALL FIELD MEASURE AND VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE PROCEEDING WITH THE WORK.
  - ALL PLUMBING AND GAS INSTALLATIONS SHALL CONFORM WITH THE FOLLOWING CODES AND STANDARDS:
    - FLORIDA BUILDING CODE - BUILDING (6TH EDITION) 2017.
    - FLORIDA BUILDING CODE - MECHANICAL (6TH EDITION) 2017.
    - FLORIDA BUILDING CODE - PLUMBING (6TH EDITION) 2017.
    - FLORIDA BUILDING CODE - ENERGY CONSERVATION (6TH EDITION) 2017.
    - FLORIDA BUILDING CODE - FUEL GAS (6TH EDITION) 2017.
    - FLORIDA FIRE PREVENTION CODE (6TH EDITION).
    - NFPA LATEST EDITION.
    - ASHRAE STANDARD 62.1 (2015)
    - NATIONAL ELECTRIC CODE (2014)
  - PIPING LAYOUTS ARE DIAGRAMMATIC AND INTEND TO SHOW GENERAL ARRANGEMENT, SIZE AND CAPACITY. ALL OFFSETS ARE NOT NECESSARILY SHOWN. CONTRACTOR SHALL ARRANGE AND COORDINATE THE WORK, FURNISH NECESSARY OFFSETS, VALVES, VENTS AND FITTINGS TO AVOID CONFLICTS WITH OTHER MECHANICAL AND ELECTRICAL SERVICES AND WITH STRUCTURAL AND ARCHITECTURAL ELEMENTS.
  - PLUMBING CONTRACTOR'S WORK SHALL INCLUDE ALL WORK AS INDICATED ON THESE DRAWINGS.
  - ALL TEMPEND WATER PIPING SHALL MAINTAIN A MINIMUM TEMPERATURE OF 110°F. HOT WATER OF 140°F FOR DISHWASHER AND (3) COMP SINKS.
  - COORDINATE ALL PIPING ROUTING WITH WORK OF OTHER TRADES PRIOR TO INSTALLATION.
  - VERIFY INVERT ELEVATIONS AND EXACT LOCATIONS OF SEWERS TO WHICH NEW SEWER LINES ARE TO BE CONNECTED BEFORE INSTALLATION.
  - INSTALL ISOLATION VALVES AT EACH DOMESTIC WATER BRANCH TAKEOFF AND INSTALL UNION AT EACH PIECE OF EQUIPMENT, FIXTURE AND APPLIANCE SERVICE POINT CONNECTION. PER FBCP (6TH EDITION) SECTION 606.1 AND 606.2.
  - INSTALL PRESSURE REDUCING VALVES ON BRANCH LINES SERVING FIXTURES AND/OR EQUIPMENT, WHEN WATER PRESSURE EXCEEDS 60 PSI.
  - INSTALLATION OF MEDICAL GAS SYSTEMS SHALL BE COVERED BY NFPA 99. MEDICAL GAS PIPING AND SYSTEM DESIGN IS NOT IN SCOPE OF WORK.



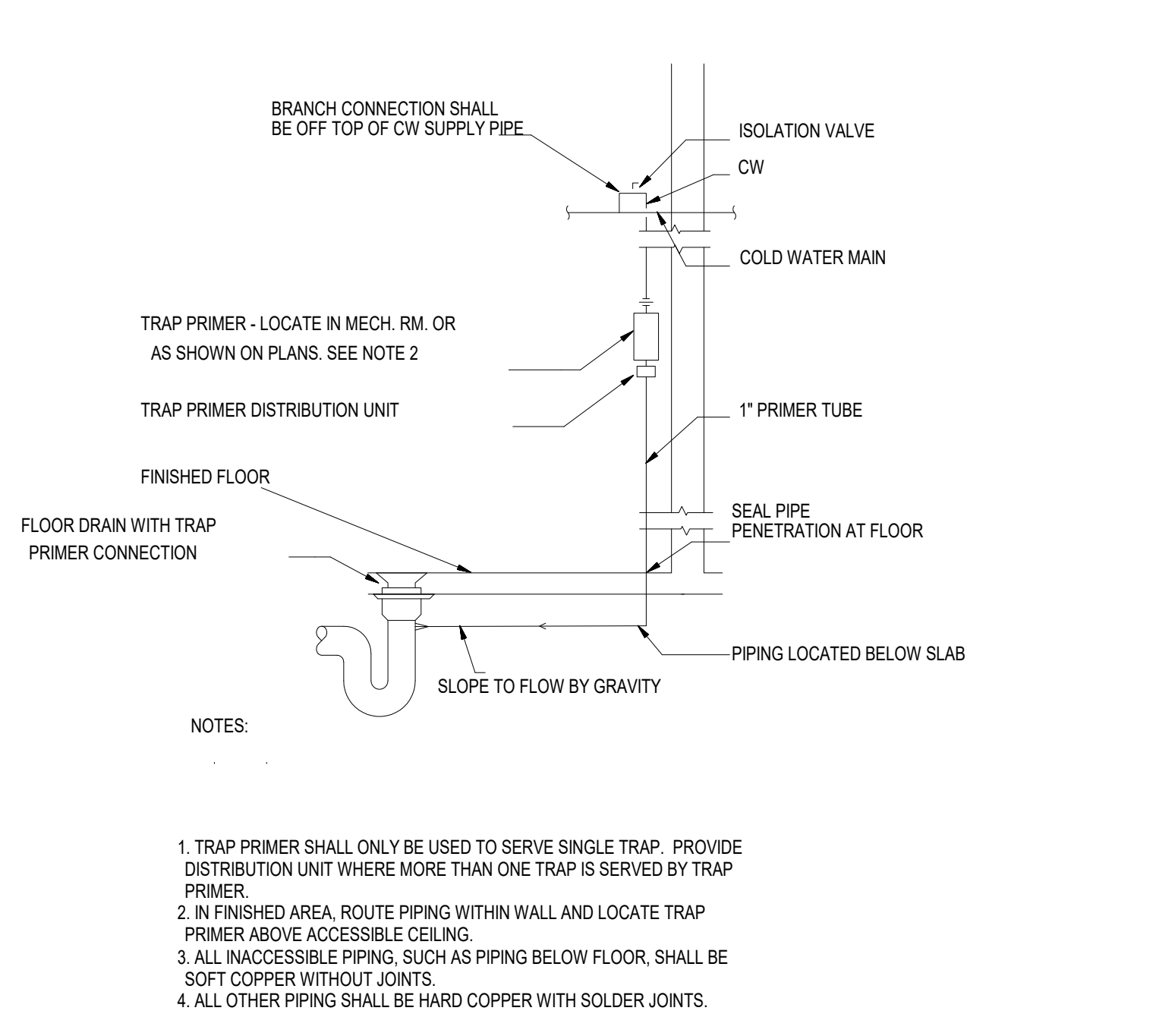
1 P-9 NTS  
ELECTRICAL WATER HEATER W/RETURN WATER



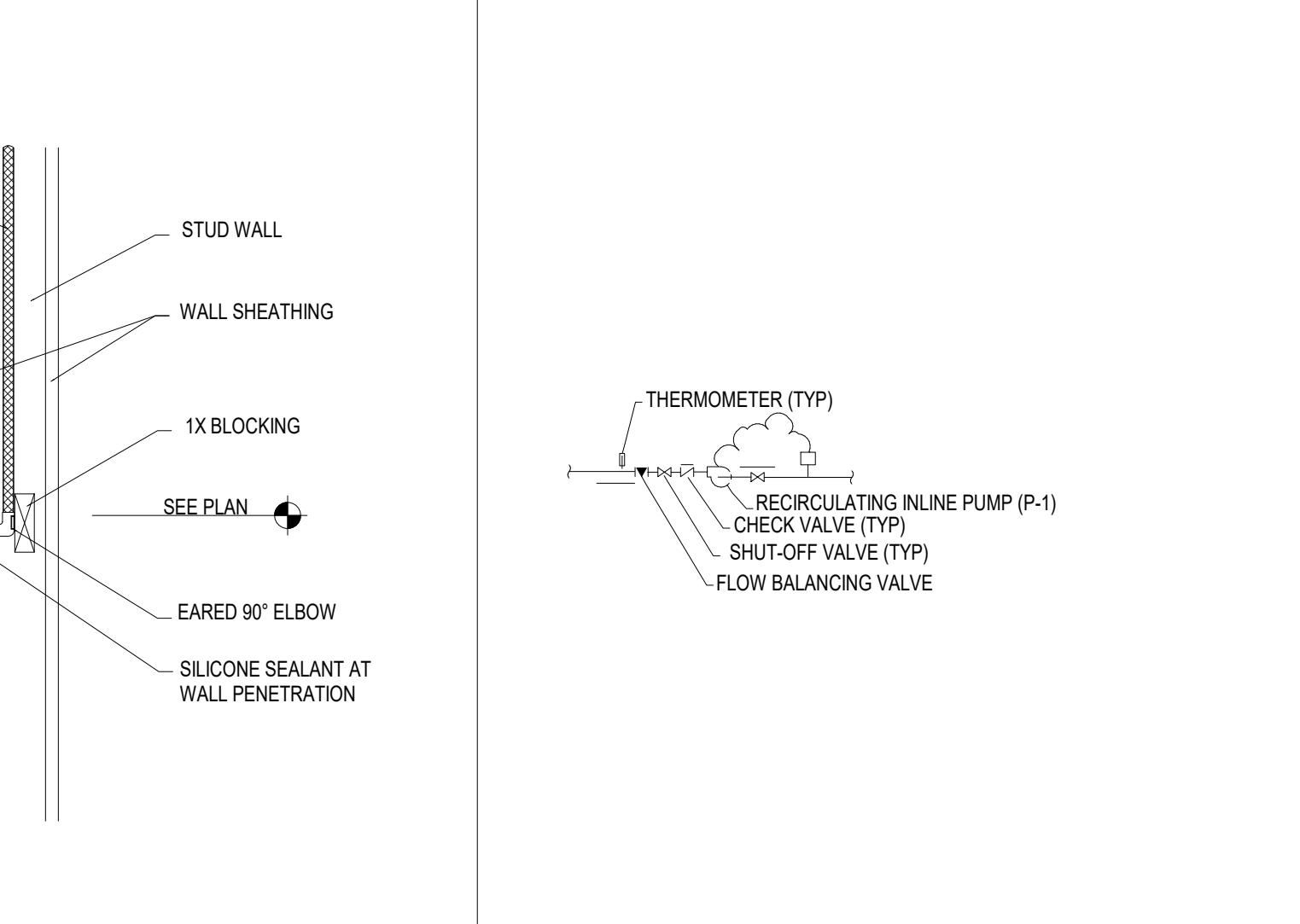
3 P-9 NTS  
ONE WAY CLEANOUT DETAIL (ECO-FCO)



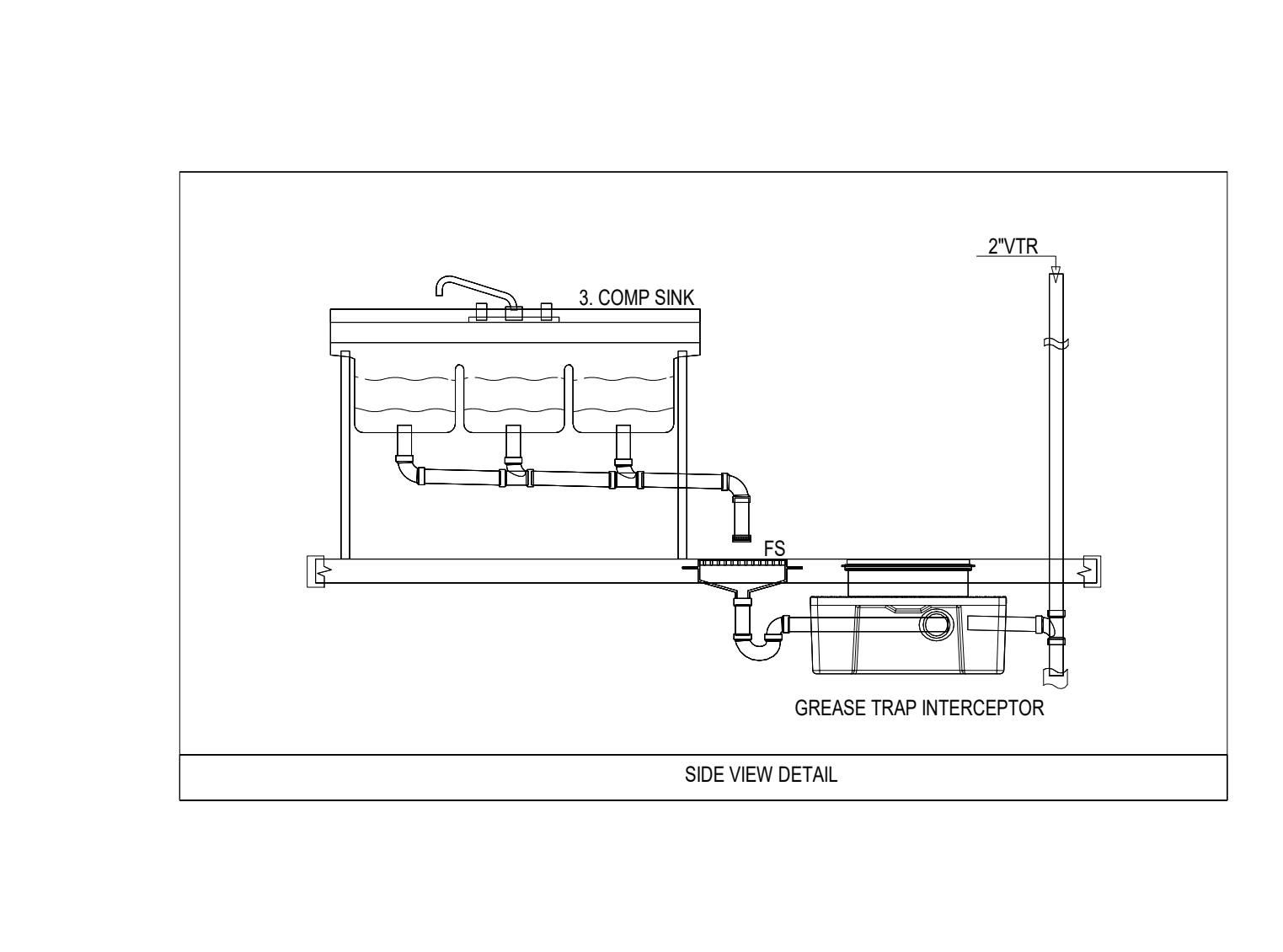
6 P-9 NTS  
TYPICAL PIPE SUPPORT DETAIL



2 P-9 NTS  
FLOOR DRAIN WITH TRAP PRIMER DETAIL



4 P-9 NTS  
TYP. WATER SUPPLY CONNECTION DETAIL



7 P-9 NTS  
GREASE TRAP CALCULATION AND DETAILS

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**MTF18144**

**DME SPORTS HOUSING COMPLEX**

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PLUMBING DETAILS & NOTES

DATE: 05/13/2019  
 SCALE: AS SHOWN  
**SHT NO. P-9**  
 ARCHITECT'S / ENGINEER'S SEAL