

SECTION 15000 - BASIC MECHANICAL REQUIREMENTS

PART 1 - GENERAL

1.1 - SUMMARY

- A. THE ABBREVIATION "G.C." SHALL REFER TO THE GENERAL CONTRACTOR IN THESE MECHANICAL DRAWINGS AND SPECIFICATIONS.
- B. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND ALL OTHER SPECIFICATION SECTIONS, APPLY TO THIS AND THE OTHER SECTIONS OF DIVISION 15.
- C. THE CONTRACTOR FOR THIS DIVISION OF WORK IS REQUIRED TO READ THE SPECIFICATIONS AND REVIEW DRAWINGS FOR ALL DIVISIONS OF WORK AND IS RESPONSIBLE FOR THE COORDINATION OF THEIR WORK AND THE WORK OF THEIR SUBCONTRACTORS WITH ALL DIVISIONS OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THEIR SUBCONTRACTORS WITH A COMPLETE SET OF BID DOCUMENTS.
- D. REFER TO RESPONSIBILITY MATRIX ON THE MECHANICAL DRAWINGS FOR INFORMATION IN REGARD TO RESPONSIBILITY OF WORK OR ITEMS WHICH MAY AFFECT BID.
- E. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LICENSES, PERMITS, INSPECTIONS, AND FEES REQUIRED OR RELATED TO THEIR WORK.
- F. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SHALL BE FURNISHED AND INSTALLED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH. ANY MATERIAL OR LABOR WHICH IS NEITHER SHOWN ON THE DRAWINGS NOR CALLED FOR IN THE SPECIFICATIONS, BUT WHICH IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK, AND WHICH IS USUALLY INCLUDED IN WORK OF SIMILAR CHARACTER, SHALL BE FURNISHED AND INSTALLED AS PART OF CONTRACT.
- G. WHERE THE DRAWINGS OR SPECIFICATIONS CALL FOR ITEMS WHICH EXCEED CODES OR THE LANDLORD'S TENANT CRITERIA, THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING THE SYSTEM WITH THE MORE STRINGENT REQUIREMENTS AS DESIGNED AND DESCRIBED ON THESE DRAWINGS, UNLESS SPECIFICALLY NOTED OTHERWISE.
- H. ALL MECHANICAL WORK SHALL BE INSTALLED TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING, AND REPAIRING. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUFFICIENT SERVICE ACCESS TO ALL EQUIPMENT.
- I. ALL WORK SHALL BE PERFORMED IN A NEAT PROFESSIONAL MANNER USING GOOD ENGINEERING AND CONSTRUCTION PRACTICES.

1.2 - RELEVANT CODES AND CRITERIA

- A. ALL WORK SHALL BE PERFORMED IN A NEAT AND PROFESSIONAL MANNER AND CONFORM TO THE LATEST ADOPTED EDITION OF THE FOLLOWING:
  - 1) STATE CODES
  - 2) LOCAL CODES AND ORDINANCES
  - 3) HEALTH AND SAFETY CODES
  - 4) NFPA
  - 5) UNDERWRITER'S LABORATORIES
  - 6) ENERGY CODES
  - 7) LANDLORD'S CRITERIA
  - 8) ALL OTHER APPLICABLE CODES AND REQUIREMENTS
- B. THE CONTRACTOR SHALL INQUIRE INTO AND COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. THE CONTRACTOR SHALL INCLUDE ANY CHANGES REQUIRED BY CODES IN THE BID AND IF THESE CHANGES ARE NOT INCLUDED IN THE BID, THEY MUST BE QUALIFIED AS A SEPARATE LINE ITEM IN THE BID AFTER CONTRACT IS ISSUED, NO ADDITIONAL COST DUE TO CODE ISSUES SHALL BE REIMBURSED BY THE OWNER TO THE CONTRACTOR.
- C. UNLESS SPECIFICALLY NOTED OTHERWISE, MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW, UNDERWRITERS LABORATORIES LISTED AND LABELED AND SIZED IN CONFORMITY WITH REQUIREMENTS OF STATE AND LOCAL CODES, WHICHEVER IS MORE STRINGENT.

1.3 - SUBMITTALS

- A. SHOP DRAWINGS
  - 1) CONTRACTOR SHALL COMPLETE SHOP DRAWINGS NECESSARY TO INSTALL THE MECHANICAL SYSTEMS IN COMPLIANCE WITH THE CONTRACT DRAWINGS. SHOP DRAWINGS DO NOT NEED TO BE SUBMITTED FOR REVIEW UNLESS NOTED OTHERWISE.
  - 2) SUBMIT STRUCTURAL AND/OR SEISMIC CALCULATIONS AS REQUIRED.
- B. RECORD DRAWINGS
  - 1) THE CONTRACTOR SHALL MAINTAIN ONE COPY OF DRAWINGS ON THE JOB SITE TO RECORD DEVIATIONS FROM CONTRACT DRAWINGS, SUCH AS:
    - a. LOCATION OF CONCEALED PIPING VALVES AND DUCTS.
    - b. REVISIONS, ADDENDUMS, AND CHANGE ORDERS.
    - c. SIGNIFICANT DEVIATIONS MADE NECESSARY BY FIELD CONDITIONS, APPROVED EQUIPMENT SUBSTITUTIONS, AND CONTRACTOR'S COORDINATION WITH OTHER TRADES.
  - 2) AT COMPLETION OF THE PROJECT AND BEFORE FINAL APPROVAL, THE CONTRACTOR SHALL MAKE ANY FINAL CORRECTIONS TO DRAWINGS AND CERTIFY THE ACCURACY OF EACH PRINT BY SIGNATURE THEREON. ONE COPY OF THE MOST RECENT SET OF DRAWINGS WITH TEMPERATURE CONTROL DRAWINGS INCLUDED SHALL BE STAMPED "DO NOT REMOVE" AND PLACED IN DRAWING TUBE LOCATED NEXT TO THE ELECTRICAL PANELS.
  - 3) CONTRACTOR TO PROVIDE A SET OF MARKUPS TO CONSTRUCTION MANAGER.
- C. DISCREPANCIES IN DOCUMENTS
  - 1) DRAWINGS (PLANS, SPECIFICATIONS, AND DETAILS) ARE DIAGRAMMATIC AND INTEND TO SHOW THE GENERAL LOCATION AND INTENT OF THE MECHANICAL SYSTEMS. WHERE DRAWINGS, LISTING SITE CONDITIONS, SPECIFICATIONS OR OTHER TRADES CONFLICT OR APPEAR UNCLEAR, THE G.C.'S CONSTRUCTION MANAGER, IN WRITING OF VARIATIONS TO CONTRACT DOCUMENTS PRIOR TO SUBMISSION OF BID. OTHERWISE, THE G.C.'S CONSTRUCTION MANAGER'S INTERPRETATION OF CONTRACT DOCUMENTS OR CONDITIONS SHALL BE FINAL AND NO ADDITIONAL COMPENSATION PERMITTED.
- D. SUBSTITUTIONS
  - 1) WHERE TRADE NAMES AND MANUFACTURERS ARE USED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THE EXACT EQUIPMENT SHALL BE USED AS A MINIMUM FOR THE BASE BID. ANY PROPOSED SUBSTITUTIONS MUST BE PRE-QUALIFIED, LISTED IN THE CONTRACTOR'S BID AND HAVE A COST SAVINGS FOR THE OWNER OF AT LEAST 10% PER TYPE OF EQUIPMENT. ADDITIONALLY, ONLY MANUFACTURERS CONSIDERED AS AN EQUAL OR BETTER IN ALL ASPECTS TO THAT SPECIFIED WILL BE REVIEWED. ALL SUBSTITUTIONS ARE SUBJECT TO APPROVAL IN WRITING, THROUGH THE SHOP DRAWING PROCESS, BY THE G.C.'S CONSTRUCTION MANAGER PRIOR TO ACCEPTANCE. THE OWNER RESERVES THE RIGHT TO REJECT ANY PROPOSED SUBSTITUTIONS. THE USE OF ANY UNAUTHORIZED EQUIPMENT SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
  - 2) THE MECHANICAL CONTRACTOR SHALL SUBMIT PROJECT SUBMITTALS PER THE REQUIRED SUBMITTALS SECTION ON THE PROJECT DOCUMENTS AND SUBSTITUTION REQUESTS TO THE G.C.'S CONSTRUCTION MANAGER FOR APPROVAL. SUBSTITUTION SUBMISSIONS SHALL BE MADE TO ALLOW FOUR (4) WORKING DAYS FOR THE CONSTRUCTION MANAGER'S REVIEW WITHOUT CAUSING DELAYS OR CONFLICT TO THE JOB'S PROGRESS. SUBMITTALS SHALL BEAR THE STAMP OF THE G.C.'S OFFICE AND THE SUB-CONTRACTOR SHOWING THAT THEY HAVE REVIEWED AND CONFIRMED THAT THE SUBMITTALS ARE IN CONFORMANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS OR INDICATE WHERE EXCEPTIONS HAVE BEEN TAKEN.

1.4 - QUALITY ASSURANCE

- A. FURNISH TO THE G.C.'S CONSTRUCTION MANAGER ALL CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.

1.5 - PROJECT SITE/CONDITIONS

- A. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING THE COMPLETION AND INSPECTION OF THEIR WORK AND THE WORK OF THEIR SUBCONTRACTORS TO COMPLY WITH THE SCHEDULE AND THE PROJECT COMPLETION DATE.
- B. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTAL OF BID TO DETERMINE CONDITIONS AFFECTING THE WORK. ANY ITEMS WHICH ARE NOT COVERED IN THE BID DOCUMENTS OR ANY PROPOSED SUBSTITUTIONS SHALL BE LISTED SEPARATELY AND QUALIFIED IN THE CONTRACTOR'S BID. SUBMITTAL OF BID SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS AND ANY MODIFICATIONS WHICH ARE REQUIRED TO MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. FAILURE TO VISIT THE SITE DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY IN PERFORMANCE OF WORK.
- C. RELOCATION OF EXISTING DUCT MAINS OR BRANCHES TO MEET STORE DESIGN CRITERIA MUST BE INCLUDED IN BID PROPOSAL.

1.6 - WARRANTY

- A. THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORK PROVIDED UNDER THEIR CONTRACT AND SHALL REPAIR OR REPLACE, AT THEIR OWN EXPENSE, ANY DEFECTIVE WORK, MATERIAL, OR EQUIPMENT WHICH MAY BE DISCOVERED WITHIN A PERIOD OF 12 MONTHS FROM THE DATE OF ACCEPTANCE (IN WRITING) OF THE INSTALLATION BY THE GENERAL CONTRACTOR'S CONSTRUCTION MANAGER. EXTENDED WARRANTIES ARE AS SPECIFIED WITH INDIVIDUAL EQUIPMENT.
- B. THE OWNER SHALL PROVIDE A COMPLETE 12-MONTH WARRANTY FOR ALL PARTS ON EQUIPMENT PROVIDED BY THE OWNER AND ITS VENDORS. THE CONTRACTOR SHALL NOT BEAR ADDITIONAL WARRANTIES BEYOND A COMPLETE WORKING SYSTEM, AND AS SUCH, NO ADDITIONAL MONIES SHOULD BE INCLUDED IN THE BID.

PART 2 - PRODUCTS

2.1 - EQUIPMENT

- A. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, INCIDENTALS AND DETAILS NECESSARY TO PROVIDE A COMPLETE MECHANICAL SYSTEM AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY JOB CONDITIONS. ALL WORK NOT SPECIFICALLY NOTED AS BEING BY THE LANDLORD OR OWNER SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. CLOSELY COORDINATE THE ENTIRE INSTALLATION WITH THE LANDLORD AND THE G.C. CONSTRUCTION MANAGER, AS REQUIRED.

PART 3 - EXECUTION

3.1 - PHASING REQUIREMENTS

- A. THE CONTRACTOR IS TO INCLUDE IN HIS BID ALL NECESSARY SERVICE REQUIRED TO KEEP THE OPERATING PHASE OF THE STORE'S HVAC, PLUMBING AND SPRINKLER SERVICE IN OPERATION. CONTRACTOR MUST SCHEDULE WITH THE G.C.'S CONSTRUCTION MANAGER AND THE LANDLORD ONE WEEK PRIOR TO ANY SHUT DOWN OF THE HVAC, PLUMBING OR FIRE PROTECTION SYSTEMS.

3.2 - DEMOLITION

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE DEMOLITION OF EXISTING WORK AND THE DEMOLITION PROVIDED BY THE G.C.
- B. CONTRACTOR SHALL COORDINATE WITH THE G.C. ANY EXISTING EQUIPMENT REQUIRED TO BE LEFT INTACT.
- C. EACH CONTRACTOR SHALL VERIFY SCOPE OF WORK WITH THE G.C. FOR THE REMOVAL OF ALL EXISTING FIRE PROTECTION, PLUMBING FIXTURES, PIPING, HVAC UNITS, REFRIGERANT RECAPTURE, EXHAUST FANS, ETC. AND ASSOCIATED ROOF CURBS NOT BEING REUSED ON THIS PROJECT, UNLESS SPECIFICALLY NOTED OTHERWISE.
- D. THE CONTRACTOR MUST VERIFY WITH THE LANDLORD ALL PRESUMED ABANDONED EQUIPMENT, PIPES, DUCTWORK, AND EQUIPMENT PRIOR TO REMOVAL.
- E. ROOF CURBS SHALL BE REMOVED AND THE ROOF PATCHED.
- F. ALL EXTRANEANOUS ITEMS IN THE SPACE OR ON THE ROOF NOT APPLICABLE TO THE WORK SHALL BE REMOVED AND ROOF/WALL/FLOOR PATCHED/REPAIRED TO MATCH EXISTING STRUCTURE.
- G. EXISTING ABANDONED PIPES, DUCTS, OR EQUIPMENT IN THE FLOOR, EMBEDDED IN CONCRETE, OR OTHERWISE INACCESSIBLE SHALL BE CUT OFF AND SEALED BELOW OR WITHIN THE ROOF OR WALL LEVEL WHEN THEY SHALL NOT BE REUSED IN THIS PROJECT. IF REQUIRED BY LOCAL OR CODES, ABANDONED PIPING AND/OR DUCTWORK MUST BE REMOVED TO POINT OF DEMOLITION. CONFIRM THE EXTENT OF DEMOLITION WITH THE G.C. PRIOR TO BID AND INCLUDE IN BID PROPOSAL AS DIRECTED BY THE G.C.

3.3 - SLEEVES

- A. THE CONTRACTOR SHALL PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH ITS RESPECTIVE FLOOR, WALL OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE. EXISTING SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 2 INCHES ABOVE THE FLOOR. CONTRACTOR MUST COORDINATE THROUGH THE LANDLORD ANY CURB DRILLING OR CUTTING OF OPENINGS IN MASONRY FLOORS OR WALLS.
- B. ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS AND/OR FLOORS SHALL BE FIRE SEALED WITH CALCIUM SILICATE "RTV" FOAM, 3M FIRE RATED SEALANTS OR EQUAL, SO AS TO RETAIN THEIR FIRE RATING.
- C. SLEEVES BEARING ON MASONRY WALLS, FLOORS, AND PARTITIONS SHALL BE STANDARD WEIGHT STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILINGS, OR FOR CONCEALED VERTICAL PIPING, SLEEVES SHALL BE MINIMUM 22 GAUGE GALVANIZED STEEL.

3.4 - HANGERS

- A. HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS ANGLE IRON, BANDS, C-CLAMPS WITH RETAINING CLIPS, CHANNELS, HANGER RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK.
- B. HANGERS SHALL BE FASTENED TO BUILDING STEEL, CONCRETE, OR MASONRY, BUT NOT TO PIPING. HANGING FROM METAL DECK IS NOT PERMITTED. HANGERS MUST BE ATTACHED TO UPPER CHORD OF BAR JOIST, WHERE INTERFERENCES OCCUR, AND IN ORDER TO SUPPORT DUCTWORK OR PIPING, THE CONTRACTOR MUST INSTALL TRAPEZE TYPE HANGERS OR SUPPORTS WHICH SHALL BE LOCATED WHERE THEY DO NOT INTERFERE WITH ACCESS TO FIRE DAMPERS, VALVES, AND OTHER EQUIPMENT. HANGER TYPES AND INSTALLATION METHODS ARE ALSO SUBJECT TO LANDLORD CRITERIA.
- C. HANGERS FOR ALL INSULATED PIPING SHALL BE SIZED AND INSTALLED FOR THE OUTER DIAMETER OF INSULATION. INSTALL 6 INCH LONG GALVANIZED SADDLE BETWEEN THE HANGER AND THE PIPE INSULATION.
- D. HANGERS AND PIPING OF DISSIMILAR METALS SHALL BE DI-ELECTRICALLY SEPARATED.

3.5 - HVAC CONTROLS

- A. PROVIDE HOME RUNS BETWEEN ALL CONTROL DEVICES. SPLICING WILL NOT BE ALLOWED.
- B. ALL CONTROL WIRING SHALL BE ROUTED IN CONDUIT.

PART 1 - GENERAL

1.1 - SUMMARY

- A. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS,

TRANSPORTATION AND FACILITIES NECESSARY FOR, REASONABLY IMPLIED AND INCIDENTAL TO, THE FURNISHING, INSTALLATION, COMPLETION AND TESTING OF ALL WORK FOR THE PLUMBING SYSTEMS AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY JOB CONDITIONS, TO INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

- 1) COMPLETE SANITARY PIPING SYSTEMS OF WASTE, DRAINS, AND VENTS.
  - 2) COMPLETE COLD AND HOT WATER PIPING SYSTEMS, APPURTENANCES AND INSULATION.
  - 3) FIXTURES AND EQUIPMENT AS SCHEDULED.
  - 4) COMPLETE NATURAL GAS PIPING SYSTEMS (AS APPLICABLE, REFER TO PLANS).
  - 5) TESTS AND ADJUSTMENTS.
- B. BEFORE STARTING WORK, THE CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS TO SEQUENCE, COORDINATE, AND INTEGRATE THE VARIOUS ELEMENTS OF THE PLUMBING SYSTEM, MATERIALS, AND EQUIPMENT WITH OTHER CONTRACTORS TO AVOID INTERFERENCES AND CONFRONTATIONS.
  - C. CONTACT AND COORDINATE GAS SERVICE, METER AND REGULATOR REQUIREMENTS WITH THE LOCAL GAS COMPANY AND THE MALL'S OPERATIONS MANAGER PRIOR TO BID. INCLUDE INSTALLATION COST OF GAS METER AND REGULATOR IN BID.
  - D. GENERALLY, SANITARY AND POTABLE WATER TAPS WILL BE PROVIDED BY THE LANDLORD. FIELD VERIFY EXACT CONNECTION POINTS PRIOR TO SUBMITTING BID AND NOTIFY THE G.C.'S CONSTRUCTION MANAGER IF CONDITIONS ARE NOT AS SHOWN ON THE PLANS OR AS STATED IN THE SPECIFICATIONS. CONTRACTOR MUST VERIFY THE OPERATIONS OF ENTIRE SYSTEM PRIOR TO THE IN.
  - E. RELOCATION OF EXISTING WATER, GAS, WASTE, VENT, OR DRAINAGE LINES TO FACILITATE STORE DESIGN CRITERIA MUST BE INCLUDED IN BID PROPOSAL.

1.2 - RELEVANT CODES AND CRITERIA

- A. REFER TO SPECIFICATION SECTION 15000.

1.3 - SUBMITTALS

- A. REFER TO SPECIFICATION SECTION 15000.
- B. SUBSTITUTIONS
  - 1) ALTERNATE SANITARY PIPING MATERIALS ARE ACCEPTABLE AS A SUBSTITUTION WHEN THEIR USE IS PERMITTED BY THE LANDLORD, LOCAL CODES AND BUILDING DEPARTMENT OFFICIALS AND DOES NOT AFFECT OTHER TRADES.

1.4 - PROJECT SITE/CONDITIONS

- A. REFER TO SPECIFICATION SECTION 15000.

1.5 - WARRANTY

- A. REFER TO SPECIFICATION SECTION 15000.

PART 2 - PRODUCTS

2.1 - MANUFACTURERS

1. TRAP PRIMERS
  - 1) PLUMBING "PRIME-REPAIR" EQUAL
2. WATER HAMMER ARRESTERS
  - 1) ZURN "SHOKTROL" OR EQUAL
3. FLOOR DRAINS
  - 1) J.R. SMITH 2005A-2050 OR EQUAL WITH TRAP PRIMER CONNECTION.
  - 2) UNNEL DRAIN
  - 3) J.R. SMITH 3500 WITH TRAP PRIMER CONNECTION.
4. INSULATION
  - 1) INSULATION FOR HOT WATER AND COLD WATER PIPING WITH 1" THICK INSULATION
    - a. INSULATION SHALL HAVE A FLAME SPREAD RATING OF NO MORE THAN 25 AND A SMOKE DEVELOPED RATING NO HIGHER THAN 50.
    - b. INSULATION SHALL BE ARMACELL ARMAFLEX AP OR APPROVED EQUAL.
5. SANITARY PIPING
  - 1) WASTE, DRAIN AND VENT PIPING SHALL BE SERVICE WEIGHT CAST IRON SOIL PIPE. VENT PIPING ABOVE FLOOR 2 INCHES OR SMALLER MAY BE GALVANIZED STEEL.
6. GAS PIPING
  - 1) BLACK STEEL, SCHEDULE 40
    - a. 2 INCHES AND SMALLER: MALLEABLE THREADED FITTINGS
    - b. 2-1/2 INCHES AND LARGER: WELDED JOINTS
  - 2) ALL EXTERIOR PIPING SHALL BE COATED WITH A RUST INHIBITOR - RUSTOLEUM 7400 HEAVY DUTY PRIMER, RED OF GRAY COLOR OR APPROVED EQUAL
7. POTABLE WATER PIPING SHALL BE AS FOLLOWS:
  - 1) POTABLE WATER PIPING SHALL BE AS FOLLOWS:
    - 2) TYPE "L" (IF PERMITTED BY LANDLORD AND LOCAL CODE AUTHORITY) DRAWN COPPER TUBE WITH WROUGHT COPPER FITTINGS AND LEAD FREE SOLDER.

PART 3 - EXECUTION

3.1 - PREPARATION

- A. TEST WATER PRESSURE TO INSURE MINIMUM PSI MATCHES MOST DEMANDING EQUIPMENT SUPPLIED.

3.2 - INSTALLATION

- A. SANITARY AND DOMESTIC WATER SYSTEMS
  - 1) SNAKE SANITARY FOR A DISTANCE OF 100 FEET AND REPORT ANY BLOCKAGE.
  - 2) WALL COVERS SHALL BE STAINLESS STEEL AND FLOOR COVERS SHALL BE BRASS. PROVIDE FLOOR COVERS WITH INSET AREA FOR CARPETED LOCATIONS. ALL CLEAN-OUT LOCATIONS SHALL BE APPROVED BY THE G.C.
  - 3) INSTALL ALL NECESSARY PIPE HANGERS, SADDLES, AND CARRIERS TO PROPERLY SUPPORT ALL PIPING AND FIXTURES. HANGERS SHALL SUIT TYPE OF PIPING PROVIDED AND BE SPACED AT A MAXIMUM SPAN OF 5 FEET. PROVIDE SWAY AND SEISMIC BRACING AS REQUIRED BY CODE.
  - 4) ESCUTCHEONS SHALL BE CHROME PLATED, SIZE AS REQUIRED AND PLACED AT ALL PIPE PENETRATIONS AT WALLS, FLOORS, AND CEILINGS IN FINISHED AREAS.
  - 5) FLASHING SHALL BE SEALED WATERTIGHT AND PERFORMED IN ACCORDANCE WITH THE LANDLORD'S CRITERIA. USE A LANDLORD APPROVED ROOFING CONTRACTOR WHERE APPLICABLE.
  - 6) PROVIDE WATER METER AND REMOTE READER PER LANDLORD'S CRITERIA OR LOCAL UTILITIES REQUIREMENTS IF APPLICABLE. REFER TO PLANS TO DETERMINE IF WATER METER IS REQUIRED.
- B. GAS PIPING
  - 1) FURNISH AND INSTALL A COMPLETE GAS PIPING SYSTEM AS APPLICABLE. REFER TO PLANS TO DETERMINE IF A GAS SYSTEM IS REQUIRED.
  - 2) FURNISH AND INSTALL A GAS COCK, DIRT LEG, AND UNION CONNECTION TO EACH PIECE OF EQUIPMENT.
  - 3) PITCH PIPING AT A UNIFORM GRADE OF 1/4 INCHES IN 15 FEET UPWARD IN DIRECTION OF FLOW. SUPPORT PIPING EVERY 5 FEET. SUPPORT AS REQUIRED BY LANDLORD CRITERIA, AS

DETAILED ON DRAWINGS, OR BY STANDARD INDUSTRY PRACTICE, WHICHEVER IS MORE STRINGENT.

C. INSULATION

- 1) INSULATION ON HOT AND COLD WATER PIPING SHALL BE PROVIDED WITH AN ALL SERVICE JACKET TO MEET LOCAL CODES.
- 2) INSULATE THE TRAP, SANITARY AND SUPPLY PIPES UNDER LAVATORY WITH TRUEBRO MODEL 102W "HANDI LAY GUARD" INSULATION KIT.
- 3) INSULATE ALL HORIZONTAL RUNS OF SANITARY PIPING LOCATED IN CEILING SPACES OF TENANTS IN SPACES BELOW, WHEN APPLICABLE INSULATION SHALL BE AS SPECIFIED FOR WATER PIPING.

D. HANGERS AND SUPPORTS

- 1) PIPE HANGERS SHALL BE PROVIDED TO ADEQUATELY SUPPORT ALL PIPING SYSTEMS. HANGERS SHALL BE VERTICALLY ADJUSTABLE TO PROVIDE FOR PROPER CLEARANCE AND DRAINAGE. HANGERS SHALL ALLOW FOR EXPANSION AND CONTRACTION OF THE PIPING SYSTEM. REFERENCE "GENERAL REGULATIONS" OF THE LATEST EDITION OF THE UNIFORM PLUMBING CODE.
- 2) HANGERS FOR PIPE SIZES 1/2 TO 6 INCHES SHALL BE ADJUSTABLE LEVEL TYPE, OR UNISTRUT SADDLES WITH ALL-THREAD HANGER ROD.
- 3) HANGERS FOR HOT PIPE, SIZES 6 INCHES AND OVER SHALL BE ADJUSTABLE STEEL YOKE, CAST IRON ROLL, DOUBLE HANGER TYPE.
- 4) VERTICAL PIPES SHALL BE SUPPORTED WITH STEEL RISER CHAMPS. SPACING INTERVAL REQUIREMENTS PER GENERAL REGULATIONS OF THE LATEST EDITION OF THE UNIFORM PLUMBING CODE.
- 5) ALL INSULATED PIPING SHALL BE PROVIDED WITH MINIMUM 18 GAUGE GALVANIZED INSULATION SHEATHING 12 INCHES LONG SIZED HANGERS. PIPE SIZES 2 INCHES AND OVER SHALL ALSO BE PROVIDED WITH 12 INCH LONG CALCIUM SILICATE INSULATING BLOCKS BETWEEN THE PIPING AND THE GALVANIZED INSULATION SHIELD.
  - a. ALTERNATE: INSULATED PIPE SUPPORT INSERTS MAY BE PROVIDED AT HANGER, SUPPORT AND GUIDE LOCATIONS ON PIPING REQUIRING INSULATION. THE INSERT SHOULD CONSIST OF EITHER HYDROUS CALCIUM SILICATE OR POLYISOCYANURATE FOAM INSULATION (URETHANE ENCLICURE) THE ENTIRE CIRCUMFERENCE OF THE PIPE WITH A 360 DEG. PVC (1.524 MM THICK) OR GALVANIZED STEEL JACKET AND INSTALLED DURING THE INSTALLATION OF THE PIPING SYSTEM. THESE INSULATED PIPE SUPPORT INSERTS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE SAME DURING SUPPORT INSTALLATION.
- 6) HANGER ROD SIZING AND SPACING FOR PIPE SHALL BE AS FOLLOWS:

PIPE SIZE	MINIMUM ROD DIAMETER	MAXIMUM SPACING
TO 1-1/4 INCHES	3/8 INCH	6.5 FEET
TO 2 INCHES	3/8 INCH	10 FEET
TO 3 INCHES	1/2 INCH	10 FEET
TO 6 INCHES	5/8 INCH	10 FEET
8 TO 12 INCHES	7/8 INCH	12 FEET
PVC & ABS (ALL SIZES)	3/8 INCH	4 FEET
CAST IRON NO-HUB	5/8 INCH	5 FEET AND AT JOINTS

- 7) PROVIDE HANGERS WITHIN 12 INCHES OF EACH HORIZONTAL ELBOW.
- 8) PROVIDE HANGERS WITH MINIMUM 1-1/2 INCHES VERTICAL ADJUSTMENT.

3.3 - FIELD QUALITY CONTROL

- A. SANITARY AND DOMESTIC WATER SYSTEMS
  - 1) LEAKAGE TESTS SHALL BE PER LOCAL CODES, MINIMUM AS FOLLOWS:
    - a. TEST WATER PIPING AT 100 PSIG FOR SIX HOURS.
    - b. TEST DRAIN, WASTE, AND VENT PIPING BY A 10' WATER COLUMN FOR TWO HOURS.
- B. GAS SYSTEMS
  - 1) TESTING AND PURGING OF GAS PIPING SHALL BE DONE PER THE REQUIREMENTS OF THE LOCAL GAS COMPANY, LOCAL CODES, AND APPLICABLE NFPA 54 CODES.

3.4 - CLEANING

- A. STERILIZE WATER SYSTEM IN ACCORDANCE WITH LOCAL CODES.

3.5 - PROTECTION

- A. GAS PIPING EXPOSED ON ROOF MUST BE PAINTED WITH RUST-INHIBITING PAINT.
- B. GAS PIPING INSTALLED IN RETURN AIR PLENUMS SHALL BE SLEEVED AND VENTED OR WELDED IN ACCORDANCE WITH THE LOCAL GAS COMPANY, LOCAL CODE, AND APPLICABLE NFPA 54 CODES.
- C. PIPING OF DISSIMILAR METALS MUST BE DI-ELECTRICALLY SEPARATED.

END OF SECTION 15200

NOTE:  
THIS IS A STANDARD SPECIFICATION, NOT ALL SECTIONS ARE USED.

NEW STORE

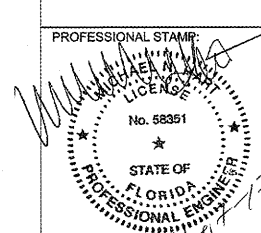


OFFICE: 415 HARRIS STREET, SAN FRANCISCO, CA 94105

REPS. ID: 000054156  
STORE NUMBER: 4458  
STORE LOCATION: VINELAND 8231 VINELAND AVENUE SUITE 2151 ORLANDO, FLORIDA 32821

DESIGN TYPE: P3  
GENERATION: 17Q12  
PROTOTYPE DATE: 07/18/16  
OPENING: 2017

CONSULTANT INFO:  
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ARCHITECT INFO:  
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architecture  
ARCHITECT OF RECORD: BRR ARCHITECTURE, INC.  
6700 ANTOCH PLAZA, SUITE 300, MERRIMAN, KANSAS 66504

ISSUE TYPE:

PERMIT/BID: 04/07/17

REVISIONS:

DRAWN BY: CCP  
A/E JOB NUMBER: 65013011

TITLE SHEET:  
MECHANICAL SPECIFICATIONS

SHEET NUMBER:  
MPF13-0