

MECHANICAL SPECIFICATIONS

- I. GENERAL PROVISIONS
A. GENERAL CONDITIONS, CODES AND STANDARDS:
1. THIS CONTRACTOR SHALL REVIEW THE ENTIRE SET OF THE CONTRACT DOCUMENTS, INCLUDING, BUT NOT LIMITED TO ELECTRICAL, PLUMBING AND MECHANICAL DRAWINGS, AS WELL AS ALL SPECIFICATIONS AND INSTRUCTIONS TO BIDDERS.
2. THIS CONTRACTOR SHALL VISIT THE SITE AND MAKE DETAILED INSPECTIONS OF THE SPECIFIED WORK TO DEVELOP KNOWLEDGE OF ALL CONDITIONS PERTINENT TO HIS/HER WORK. SHOULD THE CONTRACTOR FIND DISCREPANCIES, OR OMISSIONS FROM THE DRAWINGS, SPECIFICATIONS, OR DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS RESULTING IN CHANGES TO HIS/HER WORK OR ANY OTHER DISCIPLINES, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND/OR ENGINEER. ALL WORK SHALL BE PERFORMED AS INDICATED ON DRAWINGS UNLESS FIELD CONDITIONS REQUIRE MINOR CHANGES BE MADE. MINOR CHANGES SHALL BE MADE WITH NO ADDITIONAL COST.
3. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH ALL NATIONAL AND LOCAL GOVERNING CODES. ALL WORK SHALL BE MADE PER THE OWNER'S REQUIREMENTS AS STATED HEREIN OR OTHERWISE INDICATED BY THE OWNER.
4. ALL WORK SHALL BE PERFORMED UNDER APPLICABLE STANDARDS AS SET FORTH BY THE NATIONAL FIRE PROTECTION (NFPA), UNDERWRITER LABORATORIES (UL), THE AMERICAN GAS ASSOCIATION (AGA), THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME), THE AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS (ASHRAE), SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC (SMACNA) AND OTHER NATIONAL STANDARDS WHERE APPLICABLE.
5. THE MANUFACTURERS' NAMES ON WHICH THIS SPECIFICATION IS BASED INDICATE THE MINIMUM QUALITY OF PRODUCT REQUIRED. SUBSTITUTION MAY BE MADE TO THOSE SPECIFIED IF DEEMED EQUIVALENT BY THE OWNER'S REPRESENTATIVE. ALL WORK AND PRODUCTS SHALL MEET THE REQUIREMENTS OF THE OWNER AND GOVERNING CODES. NOT SUBSTITUTED EQUIPMENT SHALL BE ANY ADDED COSTS TO THE OWNER.
6. ALL WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE WORK BY THE OWNER.
7. CONTRACTOR SHALL PREPARE AND SUBMIT AS-BUILT DRAWINGS TO THE OWNER OR AUTHORITY HAVING JURISDICTION IF REQUESTED. AS-BUILT DRAWINGS SHALL INDICATE THE ACTUAL MANUFACTURER OF THE EQUIPMENT THAT WAS INSTALLED, THE EXACT LOCATION OF THE EQUIPMENT AND PERTINENT CAPACITIES FOR HEATING, COOLING, ETC.
8. EQUIPMENT, FIXTURES, AND ACCESSORIES SHALL NOT BE SUPPORTED FROM CEILING, SOFFIT, NEUTRAL PIERS, PIPING, DUCTWORK, METAL ROOF DECK, LATERAL BRACING, BRIDGING OR CONDUIT. ITEMS SHALL ONLY BE SUPPORTED FROM STRUCTURE WHICH HAS BEEN APPROVED BY THE ARCHITECT FOR SUPPORT.
9. ALL ROOF WORK PENETRATIONS AND REPAIRS SHALL BE TOTALLY PERFORMED BY ONLY THOSE ROOFING CONTRACTORS APPROVED BY THE OWNER/LANDLORD.
10. INSTALLATION OF ROOF MOUNTED EQUIPMENT SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND OTHER TRADES.
11. DEFICIENCIES AND NON-CONFORMING ITEMS SHALL BE CORRECTED BY THE CONTRACTOR. FAILURE TO CORRECT SUCH ITEMS SHALL PERMIT THE LANDLORD TO CORRECT SAME AT A COST TO THE CONTRACTOR.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL PERMITS AND PAYING FOR SAME. HE SHALL INCLUDE IN HIS BID CHARGES FOR ALL FEES ASSOCIATED WITH THE CONSTRUCTION OF THE SPACE INCLUDING BUT NOT LIMITED TO LOCAL, COUNTY, OR STATE SERVICE CHARGES AND PERMIT FEES, AND UTILITY AND/OR EQUIPMENT CHARGES.
B. SCOPE OF WORK:
1. THIS CONTRACT SHALL INCLUDE THE FURNISHINGS, INSTALLING, CONNECTING, AND OPERATION OF ALL EQUIPMENT WHICH IS A PART OF THE MECHANICAL SYSTEMS AS SHOWN ON THE DRAWINGS AND AS REQUIRED BY SIMILAR INSTALLATIONS. 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 A SIMILAR CHARACTER SHALL BE FURNISHED AND INSTALLED UNDER THIS CONTRACT AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS REQUIRED TO PROVIDE THE OWNER A COMPLETE, CODE APPROVED AND OPERATIONAL MECHANICAL SYSTEM.
2. ALL EXISTING UTILITY AND MECHANICAL SERVICES SHALL BE FIELD VERIFIED. CORRECTIONS TO THE DESIGN AND INSTALLATION SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.
3. PROVIDE AND INSTALL ALL:
a. EQUIPMENT, APPLIANCES, CONTROL DEVICES, ACCESSORIES, MATERIAL AND LABOR.
b. ALL DUCTWORK, INSULATION, AIR DEVICES, DUCT ACCESSORIES, MATERIAL AND LABOR.
c. ALL PIPING, FITTINGS, VALVES, INSULATION, ACCESSORIES, MATERIAL AND LABOR.
d. ALL EXHAUST SYSTEM(S) INDICATED.
e. ALL ROOF WORK, INCLUDING EQUIPMENT SUPPORTS, ROOF PENETRATIONS, PATCHING AND WATERPROOFING OF ROOF.
f. ALL EQUIPMENT SUPPORTS AND HANGERS INCLUDING ANY AUXILIARY SUPPORTS REQUIRED. ANY STRUCTURAL MODIFICATION TO THE BUILDING STRUCTURE SHALL BE MADE ONLY WITH THE WRITTEN APPROVAL OF THE LANDLORD.
4. CLEAN, TEST AND PUT INTO SERVICE ALL SYSTEMS SPECIFIED.
5. PROVIDE A BALANCE REPORT PREPARED BY AN INDEPENDENT TABC OR NEBB CERTIFIED AIR BALANCE CONTRACTOR.
6. WARRANTY ALL WORK AND MATERIALS HEREIN GUARANTEED FOR A PERIOD OF NOT LESS THAN ONE YEAR.
7. ALL MATERIALS SHALL BE NEW AND RECOGNIZED COMMERCIAL QUALITY. USED MATERIALS WILL NOT BE PERMITTED.
C. DOCUMENTS:
1. THE DRAWINGS AND DIAGRAMS SHALL BE PERFORMED AND INDICATED THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND COORDINATION ISSUES REQUIRE CHANGES TO THE DRAWINGS SHALL BE MADE WITH NO ADDITIONAL COST TO THE OWNER.
2. ANY INCIDENTAL ITEMS OR LABOR, ETC. NOT INCLUDED IN THE SPECIFICATIONS OR THE DRAWINGS BUT REASONABLY IMPLIED AS NECESSARY FOR THE COMPLETE INSTALLATION OF ALL APPARATUS SHALL BE INCLUDED IN BID.
3. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND MATERIAL AND/OR LABOR CALLED FOR IN ONE SHALL BE FURNISHED EVEN THOUGH NOT MENTIONED IN BOTH.

MECHANICAL SPECIFICATIONS

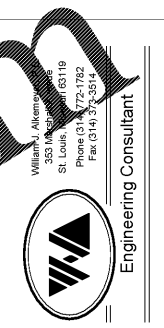
- 4. IF ERRORS ARE FOUND IN THE DRAWINGS OR SPECIFICATIONS OR DISCREPANCIES OCCUR BETWEEN THE SAME, OR BETWEEN THE FIGURES ON THE DRAWINGS, AND THE SCALE OF SAME OR BETWEEN THE LARGER AND SMALLER DRAWING, OR IN THE DESCRIPTIVE MATTER ON THE DRAWINGS SHALL BE REFERRED TO THE OWNER OR ENGINEER FOR REVIEW AND FINAL DECISION PRIOR TO THE BID DUE DATE.
5. THE BIDDING OF THIS WORK WILL CONTEMPLATE THE USE OF EQUIPMENT AND MATERIALS EXACTLY AS SPECIFIED HEREIN. WHERE MORE THAN ONE MANUFACTURE IS MENTIONED ANY ONE MAY BE UTILIZED. SUBSTITUTE MANUFACTURES MAY BE OFFERED ONLY AS AN ALTERNATE TO THE SPECIFIED EQUIPMENT AND MATERIAL MUST BE SUBMITTED AS SPECIFIED IN THE ARCHITECTURAL DOCUMENTS.
6. MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THE SYSTEMS CAN BE OF ANY RECOGNIZED MANUFACTURE PROVIDED THESE ITEMS MEET MINIMUM STANDARDS AS SET IN THESE SPECIFICATIONS. REFER TO EACH SECTION FOR ANY SPECIFIC REQUIREMENTS.
II. INSULATION
A. GENERAL
1. INSTALLATION SHALL CONFORM TO MANUFACTURER'S RECOMMENDATIONS, AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES.
2. CLEAN AND DRY SURFACES PRIOR TO INSULATING.
3. EXTEND INSULATION WITHOUT INTERRUPTIONS THROUGH WALLS, FLOORS, HANGERS AND SIMILAR PENETRATIONS.
4. INSULATION JACKET AND FITTING COVER MUST BE PLENUM RATED.
5. THE INTEGRITY OF THE VAPOR-BARRIER MUST BE MAINTAINED. SEAL ALL PENETRATIONS OF THE VAPOR-BARRIER BY STAPLES, HANGERS OR WHERE OTHERWISE DAMAGED.
6. MAINTAIN ACCESS TO BALANCING DAMPERS AND VALVES.
7. INSULATION SHALL BE BY CERTAIN TEED, OWENS-CORNING, KNAUF OR MANVILLE.
B. DUCTWORK
1. ALL SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-6 INSULATION WHEN LOCATED IN UNCONDITIONED SPACES AND A MINIMUM OF R-8 INSULATION WHEN LOCATED OUTSIDE THE BUILDING. ADDITIONAL INSULATION REQUIREMENTS MAY BE LISTED ON THE PLANS.
2. DUCT LINERS SHALL BE PRE-MANUFACTURED AND APPROVED AS HVAC DUCT LINER. DUCT LINERS INSTALLED IN RESTAURANTS AND FOOD PREPARATION AREAS SHALL HAVE A PROTECTIVE COVERING AND BE LISTED BY AN APPROVED TESTING LABORATORY FOR SAID PURPOSE.
3. ALL DUCT INSULATION SHALL BE UL LABELED FOR FIRE AND SMOKE RATINGS.
4. ALL RESTAURANTS WHICH USE YEAST FOR BAKING PRODUCTS, OR UTILIZE OVENS WHICH COULD RESULT IN MOLD FROM YEAST CONTAINING PRODUCT OR AIR BORN YEAST SHALL HAVE EXTERNALLY WRAPPED INSULATION (NO INTERNAL LINERS ALLOWED).
5. FIRE-RATED BLANKETS SHALL BE HIGH-TEMPERATURE, FLEXIBLE, BLANKET INSULATION WITH FSK JACKET THAT IS TESTED AND CERTIFIED TO PROVIDE THE REQUIRED RATING BY AN NRTL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
III. HVAC
A. DUCTWORK AND AIR DISTRIBUTION
1. DUCTWORK (ROUND, RECTANGULAR OR SPIRAL) SHALL BE OF GALVANIZED STEEL CONSTRUCTION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA MANUAL - HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE.
2. ROUND DUCT AND ELBOWS SHALL BE LONG SWEEP, 1.5 TIMES THE CENTERLINE RADIUS UNLESS CLEARANCE IS NOT AVAILABLE AT WHICH TIME MITERED ELBOWS WITH TURNING VANES SHALL BE UTILIZED.
3. SPIRAL DUCT FITTINGS SHALL BE MANUFACTURED FROM G60 GALVANIZED STEEL MEETING ASTM-A924 AND A653 REQUIREMENTS.
a. CONSTRUCTION
(1) BRANCH CONNECTIONS SHALL BE MADE WITH 90° CONICAL AND 45° CONICAL TAPS. BRANCH CONNECTIONS SHALL BE MADE AS A SEPARATE FITTING FACTORY OR FIELD INSTALLATION OF TAPS INTO SPIRAL SHALL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
(2) ELBOWS SHALL BE FABRICATED WITH A CENTERLINE RADIUS OF 1.5 TIMES THE DIAMETER. 90 AND 45 DEGREE ELBOWS IN DIAMETERS 3" ROUND THROUGH 12" ROUND SHALL BE STAMPED OR PLEATED ELBOWS. OTHER ELBOWS SHALL BE OF GORED TYPE. CIRCUMFERENTIAL AND LONGITUDINAL SEAMS OF ALL FITTINGS SHALL BE CONTINUOUS WELD OR TIGHT WELDS AND SEALED WITH MASTIC. ALL WELDS SHALL BE PAINTED TO PREVENT CORROSION.
(3) FLEX JOINTS IN ROUND DUCTS UP TO AND INCLUDING 36" DIAMETER AND OVAL DUCTS UP TO A MINOR AXIS INCLUDING 41" MAJOR AXIS SHALL BE MADE WITH 2" SLIP-FIT OR SLIP COUPLERS. 36" DIAMETER AND LARGER SHALL BE PROVIDED WITH A FLANGED CONNECTION. FLANGED CONNECTIONS MAY, AT THE CONTRACTORS OPTION, BE USED IN SMALLER SIZES. ACCESS DOORS SHALL BE SUPPLIED BY THE DUCT MANUFACTURER FOR ALL FIRE AND/OR SMOKE DAMPERS.
(4) DUCTWORK 18" WIDTH AND LARGER SHALL BE CROSS-BROKEN OR RIBBED AND STIFFENED SO THAT IT WILL NOT 'BREATHE', RATTLE, VIBRATE OR SAG.
4. RECTANGULAR ELBOWS SHALL BE BE FURNISHED WITH DOUBLE THICKNESS TURNING VANES. TURNING VANES SHALL BE FASTENED WITH DOUBLE ROW SCREWS.
5. MITERED OFFSETS GREATER THAN 30 DEGREES IN EITHER DIRECTION SHALL NOT BE PERMITTED.
6. CHANGES IN DUCT SIZES SHALL BE MADE BY UNIFORM TAPER SECTION WITH A MAXIMUM INCLUDE ANGLE IF DIVERGENCE OF 15 DEGREES.
7. RECTANGULAR BALANCING DAMPERS SHALL BE (OR EQUAL TO) RUSKIN MD25 SINGLE BLADE UP TO 8" IN HEIGHT AND 36" IN WIDTH, AND RUSKIN MD35 MULTI-BLADE FOR LARGER SIZES. ALL ROUND BALANCING DAMPERS SHALL BE COMMERCIAL GRADE SINGLE BLADE UP 16" DIAMETER AND SHALL INCORPORATE LOCKING TYPE INDICATING ADJUSTMENT. BALANCING DAMPERS SHALL BE INSTALLED IN ALL BRANCH DUCTS OFF MAIN AND ON ALL TAPS OFF DUCTS TO DIFFUSERS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
8. FIRE DAMPERS SHALL BE RUSKIN AND SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS AND SMACNA REQUIREMENTS FOR A UL APPROVED INSTALLATION. FIRE DAMPERS SHALL BE TYPE 'B' (BLADES AND FRAME COMPLETELY OUR OF AIRSTREAM) FOR ALL WALL ASSEMBLIES AND SHALL BE INSTALLED PER UL 555. FIRE DAMPERS SHALL BE INSTALLED IN FIRE RATED WALLS. VERIFY FIRE RATED WALL LOCATIONS AND RATINGS ON THE ARCHITECTURAL DOCUMENTS. FOR ALL FLOOR PENETRATIONS USE TYPE 'LF' FIRE DAMPERS.

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- 9. DOUBLE THICKNESS INSULATED ACCESS DOORS SHALL BE PROVIDED AS ALL FIRE DAMPERS FOR ACCESS TO FUSIBLE LINK. DOOR SHALL BE SIZED TO ALLOW FOR EASY SERVICE AND ACCESSIBILITY. ACCESS DOORS SHALL BE A MINIMUM OF 24" IN THE LONGEST DIMENSION.
10. PROVIDE 3' X 3' 1/4" ANGLED FRAMING AROUND THE ROOF OPENING FOR THE SUPPLY AND RETURN DUCTWORK.
11. SUPPORT ALL SHEET METAL AND EQUIPMENT FROM STRUCTURAL STEEL. DO NOT SUSPEND FROM METAL DECK OR JOIST BRIDGING.
12. FIBERGLASS DUCTWORK WILL ONLY BE PERMITTED WITH THE APPROVAL OF THE OWNER, ARCHITECT, AND ENGINEER. NONMETALLIC DUCTS SHALL BE CONSTRUCTED WITH CLASS 0 OR CLASS 1 DUCT MATERIAL AND SHALL COMPLY WITH UL 181. FIBROUS DUCT CONSTRUCTION SHALL CONFORM TO THE SMACNA FIBROUS GLASS DUCT CONSTRUCTION STANDARDS OR NAIMA FIBROUS GLASS DUCT CONSTRUCTION STANDARDS. THE AIR TEMPERATURE WITHIN NONMETALLIC DUCTS SHALL NOT EXCEED 260°F (121°C).
13. FLEXIBLE DUCTWORK SHALL CONFORM TO THE FOLLOWING:
a. SHALL HAVE AN IMPERVIOUS INNER CORE WITH WIRE REINFORCEMENT. THE INNER DUCT SHALL BE R-6 FIBERGLASS DUCT INSULATION WITH A POLYETHYLENE VAPOR-PROOF JACKET. FLEXIBLE DUCT SHALL BE UL-181 LISTED, CLASS 1, AND SHALL MEET ALL APPLICABLE CODES AND THE REQUIREMENTS OF THE LANDLORD.
b. FITTINGS TO CONNECT THE FLEX DUCT TO THE TRUNK DUCT SHALL BE OF THE 45° LEAD-IN TYPE PER THE LATEST OF SMACNA STANDARDS AND SHALL HAVE AN OPPOSED BLADE VOLUME DAMPER, SQUARE-TO-ROUND TRANSITION AND SHALL HAVE THE SAME FREE AREA AS THE SPECIFIED FLEX DUCT.
c. FLEX DUCT SHALL BE THE PRODUCT OF AN ESTABLISHED MANUFACTURER OF SUCH PRODUCTS AND EQUIVALENT TO CERTAINTED MODEL G-25, WIREMOLD WGC, OR PPG GOSSFLEX.
B. PIPING
1. OUTDOOR CONDENSATE PIPING SHALL BE TYPE 'L' COPPER CONDENSATE DRAIN FOR THE ROOFTOP MOUNTED AIR CONDITIONING UNIT. INSTALLED PER MANUFACTURERS REQUIREMENTS AND DETAILS. DRAIN SHALL DISCHARGE TO A ROOF DRAIN (IF ALLOWED BY AHJ) OR APPROVED RECEP-TACLE.
2. WHEN MODIFICATIONS ARE BEING MADE TO AN EXISTING SYSTEM THE NEW MATERIAL SHALL MATCH THE EXISTING. IF THE MATERIAL DIFFERS FROM THAT SPECIFIED HEREIN, IT SHALL BE SPECIFIED IN THE BID PROPOSAL.
IV. HVAC EQUIPMENT
A. GENERAL
1. INSTALLATION OF ALL EQUIPMENT SHALL COMPLY WITH THE MANUFACTURERS INSTALLATION INFORMATION AND INSTRUCTIONS, RECOMMENDATIONS AND SPECIAL GUIDELINES. THE CONTRACTOR SHALL PROVIDE ALL ACCESSORIES AND REQUIRED ACCESSORIES TO COMPLETE THE INSTALLATION.
2. HVAC EQUIPMENT SHALL BE 'STARTED UP' BY A FACTORY TRAINED AND AUTHORIZED SERVICE TECHNICIAN.
3. ALL FACTORY STARTUP TERMS SHALL BE COMPLETED AND TURNED OVER TO THE OWNER WITH ALL CONTRACTED WARRANTY PERIODS PRIOR TO FINAL APPROVAL.
V. CONTROLS
A. CONTROL WIRING SHALL BE PLENUM RATED CABLE WITH COLOR CODED 18 AWG WIRES (MINIMUM).
B. CONTRACTOR SHALL PROVIDE ALL WIRING BETWEEN THERMOSTAT AND EQUIPMENT (AIR HANDLER, FAN COILING UNIT, ETC.).
C. CONTRACTOR SHALL FURNISH AND INSTALL A 120 VOLT DUCT MOUNTED IONIZATION SMOKE DETECTOR (UNLESS NOTED OTHERWISE ON THE DRAWINGS). DETECTOR SHALL BE WIRING BY THE ELECTRICAL CONTRACTOR, TO SHUT DOWN UNIT UPON ACTIVATION.
D. THERMOSTATS (UNLESS NOTED OTHERWISE ON THE DRAWINGS) SHALL BE FURNISHED AND BE A 7 DAY PROGRAMMABLE HEATING/COOLING THERMOSTAT WITH 50' OF CONTROL WIRING BETWEEN THE THERMOSTAT AND THE FURNACE/RTU. COIL WIRE AND SUSPEND FROM STRUCTURE FOR FUTURE INSTALLATION. WIRING SHALL BE MINIMUM 18 AWG.
VI. TESTING AND BALANCING
A. TESTING AND BALANCING SHALL NOT BEGIN UNTIL THE SYSTEM HAS BEEN COMPLETED, IS FULL WORKING ORDER AND ALL EQUIPMENT START-UP HAS BEEN COMPLETED. ALL HVAC SYSTEMS AND EQUIPMENT SHALL BE PUT INTO FULL OPERATION.
B. AN INDEPENDENT 'AABC' OR 'NEBB' CERTIFIED AIR AND WATER BALANCE CONTRACTOR SHALL TEST AND BALANCE THE SYSTEM AND REPORT RESULTS TO THE OWNER.
1. ALL WORK SHALL BE COMPLETED UNDER DIRECT SUPERVISION OF THE CERTIFIED BALANCING ENGINEER AND BY QUALIFIED BALANCING TECHNICIANS.
2. METHODS AND FORMS SHALL BE IN ACCORDANCE WITH THE CERTIFICATIONS AGENCIES RECOMMENDATIONS AND REQUIREMENTS.
3. COMPLY WITH ASHRAE RECOMMENDATIONS PERTAINING TO MEASUREMENTS, INSTRUMENTS, ADJUSTING AND BALANCING.
4. ALL QUANTITIES SHALL BE WITHIN 10% OF THE DESIGN VALUES.
5. CONTRACTOR SHALL PROVIDE ANY SHEAVE CHANGES REQUIRED ON THE HVAC UNIT(S).
C. PERFORMANCE TEST
1. AFTER ALL HVAC EQUIPMENT IS INSTALLED, TESTED AND BALANCED AS SPECIFIED THEY SHALL BE OPERATED AND OBSERVED FOR A PERIOD OF AT LEAST ONE DAY. THIS MAY INCLUDE STARTUP, TO VERIFY ALL EQUIPMENT IS PRODUCING THE REQUIRED CAPACITY. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR THE OPERATION OF THE EQUIPMENT DURING THE ENTIRE PERIOD.
2. TESTING SHALL BE PERFORMED WITH ALL CONTROLS IN THE AUTOMATIC POSITION AND BUILDING LIGHTS, DAMPERS, ETC. POSITIONED IN SIMULATE NORMAL OPERATION OF THE SYSTEM.
3. DURING THE TEST, CONTROL SETTINGS MAY REQUIRE ADDITIONAL ADJUSTMENTS TO PRODUCE THE BEST BALANCED OPERATION.
4. SHOULD COMPLETION OF THE INSTALLATION OCCUR AT SUCH TIME THAT THE REQUIRED PERFORMANCE TEST MUST BE CONDUCTED DURING A SEASON WHEN THE FULL OPERATION OF EITHER THE HEATING OR COOLING SYSTEM CAN NOT BE CHECKED, THE CONTRACTOR SHALL PERFORM THE TEST AND RECORD ALL SUCH DATA AS IS AVAILABLE WITH THE SYSTEM OPERATING AUTOMATICALLY UNDER THE PREVAILING WEATHER CONDITIONS. THAT PART OF THE SYSTEM WHICH SHALL BE DELAYED UNTIL THE WEATHER IS APPROPRIATE, AT WHICH TIME THE REMAINING PART OF TESTS SHALL BE CONDUCTED.

Bakery-Cafe:

#6119



Bakery Cafe #6119
6351 MANATEE AVE. W,
BRADENTON, FL 34209



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SPECIFICATIONS
Project Number: Sheet Number:
449-18
Drawn: Checked:
A\_GC MG M501
Issue Date:
10/01/18
DPM: DM: CPM:
BS: DM ME