

MECHANICAL SPECIFICATIONS

PART 1 - GENERAL

GENERAL

GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, AND SPECIAL CONDITIONS ARE MADE PART OF THIS SPECIFICATION AND HAVE THE SAME FORCE AND EFFECT AS IF COMPLETELY REPRODUCED.

DEFINITIONS: THE WORD "WORK" SHALL MEAN LABOR AND ANY INCIDENTAL ITEMS OR SERVICES NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE COMPLETE SYSTEMS NOTED ON THESE DRAWINGS AND ASSOCIATED SPECIFICATIONS. THE WORD "PROVIDE" SHALL MEAN FURNISH AND INSTALL AND MAKE FINAL CONNECTIONS AND LEAVE IN AN APPROVED COMPLETE OPERATING CONDITION.

WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITIONS OF THE APPLICABLE FLORIDA BUILDING CODE (FBC), FLORIDA ENERGY CODE (FEC), FLORIDA MECHANICAL CODE (FMC), FLORIDA PLUMBING CODE (FPC), NATIONAL ELECTRICAL CODE (NEC) AND OTHER APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS; INCLUDING AMENDMENTS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING FEES AND OBTAINING PERMITS AND INSPECTIONS REQUIRED FOR THE WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FITTING OF MATERIAL INTO THE BUILDING AS INDICATED ON DRAWINGS, WITHOUT INTERFERENCE WITH OTHER WORK, AND SHALL MAKE REASONABLE MODIFICATIONS IN THE LAYOUTS NEEDED TO PREVENT CONFLICT WITH OTHER TRADES, TO PROVIDE ACCESS AND FOR THE PROPER EXECUTION OF THE WORK.

WORK SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES INCLUDING CONTRACT DOCUMENTS, SHOP DRAWINGS, AND EXISTING SYSTEMS.

DO NOT SCALE DRAWINGS AS THEY ARE DIAGRAMMATIC AND SCHEMATIC IN NATURE. CONTRACTOR SHALL PROVIDE NECESSARY ITEMS TO COMPLETE THE WORK ACCORDING TO INDUSTRY STANDARDS. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO CALL OUT FOR FINISHED WORK, TESTED AND READY FOR OPERATION. ARRANGEMENT OF EQUIPMENT AND ROUTING OF PIPES AND DUCTWORK INDICATED ON DRAWINGS SHALL BE ROUTED PLUMB AND AT RIGHT ANGLES. INSTALLATION OF SYSTEMS MAY REQUIRE MODIFICATION DUE TO UNFORESEEN CONDITIONS.

VERIFY ALL SIZES, DIMENSIONS, AND CONDITIONS BEFORE STARTING ANY WORK. ANY DEVIATIONS OR PROBLEMS SHALL BE TRANSMITTED TO THE ENGINEER FOR REVIEW.

CONTRACTOR SHALL SUBMIT A BID BASED ON MANUFACTURER NAMES LISTED UNLESS "OR EQUAL" IS INDICATED. SUBSTITUTION REQUESTS WILL BE REVIEWED BY THE ENGINEER, AND MUST BE SUBMITTED A MINIMUM OF FIVE (5) BUSINESS DAYS PRIOR TO BID DATE CLOSING. ACCEPTABILITY OF SUBSTITUTION WILL BE SOLELY DETERMINED BY THE OWNER. THE REQUEST SHALL INCLUDE THE FOLLOWING DATA:

1. ADDITIVE OR DEDUCTIVE AMOUNT CLEARLY WRITTEN IN WORDS AND NUMERALS.
2. INCREASE OR DECREASE IN CONSTRUCTION TIME IN DAYS.
3. OTHER DEMONSTRATABLE BENEFIT FOR WHICH THE SUBSTITUTION OF SUCH ITEM WILL BE IN THE OWNER'S INTEREST.

IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY.

EXAMINATION OF BIDDING DOCUMENTS:

EACH BIDDER SHALL EXAMINE THE BIDDING DOCUMENTS CAREFULLY AND, NOT LATER THAN SEVEN DAYS PRIOR TO THE DATE OF RECEIPT AND BIDS, SHALL MAKE WRITTEN REQUEST TO THE ARCHITECT FOR INTERPRETATION OR CORRECTION OF ANY DISCREPANCIES, AMBIGUITY, INCONSISTENCY OR ERROR THEREIN WHICH HE MAY DISCOVER. ANY INTERPRETATION OR CORRECTION WILL BE ISSUED AS AN ADDENDUM BY THE ARCHITECT. ONLY A WRITTEN INTERPRETATION OR CORRECTION BY ADDENDUM SHALL BE BINDING, NO BIDDER SHALL RELY UPON INTERPRETATIONS OR CORRECTIONS GIVEN BY ANY OTHER METHOD. IF DISCREPANCIES, AMBIGUITY, INCONSISTENCY OR ERROR ARE NOT COVERED BY ADDENDUM OR WRITTEN DIRECTIVE, CONTRACTOR SHALL INCLUDE IN HIS BID, LABOR, MATERIALS AND METHODS OF CONSTRUCTION RESULTING IN HIGHER COST. AFTER AWARD OF CONTRACT, NO ALLOWANCE OR EXTRA COMPENSATION WILL BE MADE IN BEHALF OF THE CONTRACTOR DUE TO HIS FAILURE TO MAKE THE WRITTEN REQUESTS AS DESCRIBED ABOVE.

THE COMPANY/CONTRACTOR SUBMITTING THE REQUEST WILL BE RESPONSIBLE FOR ITS PROMPT DELIVERY. FAILURE TO REQUEST CLARIFICATION OF ANY INADEQUACY, OMISSION OR CONFLICT WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY. THE SIGNING OF THE CONTRACT WILL BE CONSIDERED AS IMPLICITLY DENOTING THAT THE CONTRACTOR HAS A THOROUGH COMPREHENSION OF THE FULL INTENT AND SCOPE OF THE WORKING DRAWINGS AND SPECIFICATIONS.

WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER OF THE SATISFACTION OF THE OWNER.

GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER.

SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO OWNER.

EXISTING CONDITIONS

THIS PROJECT INVOLVES CONSTRUCTION INSIDE AN EXISTING STRUCTURE. CONTRACTORS, BY SUBMITTING A BID ARE DEEMED TO BE COMPLETELY FAMILIAR WITH THE EXISTING CONDITIONS OF THE BUILDING AS IT INFLUENCES THE WORK DESCRIBED. NO CLAIMS FOR EXTRA COMPENSATION WILL BE CONSIDERED FOR EXISTING CONDITIONS VISIBLE OR REASONABLY INFERRABLE FROM A CAREFUL EXAMINATION OF THE EXISTING BUILDING CONDITIONS.

CONTRACTOR SHALL INSPECT THE EXISTING FIELD CONDITIONS AT THE SITE AND THE CONTRACT DOCUMENTS PRIOR TO THE START OF ANY WORK TO DETERMINE WHAT EFFECT THE EXISTING CONDITIONS WILL HAVE ON THE WORK POTENTIAL. CONTRACTOR SHALL REPORT DISCREPANCIES TO THE OWNER AND INCLUDE IN HIS BID ALL COSTS REQUIRED TO MAKE HIS WORK MEET EXISTING CONDITIONS.

CONTRACTOR SHALL CONNECT THEIR WORK TO VARIOUS EXISTING DUCTWORK AND CONTROL SYSTEMS. THE NEW WORK SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM CONDITIONS.

CARE SHALL BE TAKEN DURING INSTALLATION OF THE NEW WORK, AS NOT TO DAMAGE OR INTERRUPT THE EXISTING BUILDING SYSTEMS AND SERVICES INSTALLED. DAMAGE TO EXISTING SYSTEMS AND EQUIPMENT CAUSED BY CONTRACTOR DURING THE INSTALLATION OF THEIR WORK SHALL BE REPAIRED AND/OR REPLACED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE BUILDING OWNER.

SHUTDOWN OF EXISTING SYSTEMS FOR CONNECTION TO EXISTING SERVICES SHALL BE COORDINATED WITH THE OWNER. CONTRACTOR SHALL SUBMIT REQUESTS WHERE THEY AFFECT THE OPERATION OF THE BUILDING SYSTEMS AT LEAST ONE (1) WEEK IN ADVANCE OF ANY REQUIRED SHUTDOWN. THE ACTUAL SHUTDOWN PERIOD SHALL BE AS SHORT AS POSSIBLE AND AT A TIME AGREED TO BY THE OWNER.

DEMOLITION SHALL BE COORDINATED WITH OWNER, ARCHITECT AND GENERAL CONTRACTOR.

CONTRACTOR SHALL REPORT ANY EQUIPMENT DEFICIENCIES FOUND TO THE ARCHITECT WITHIN FIVE (5) DAYS OF DISCOVERY.

CONTRACTOR SHALL PROVIDE THE FOLLOWING SERVICES AS APPLICABLE, ON EXISTING HVAC EQUIPMENT INDICATED TO REMAIN (AC UNIT FOR VDS ROOM & TERMINAL UNITS): FILTER CHANGES, BALANCING, LUBRICATION OF APPLICABLE MOVING COMPONENTS, CLEAN COILS, CALIBRATE UNIT CONTROL COMPONENTS, VERIFY FAN ROTATION AND OPERATION, VERIFY CONTROLS OPERATION, CLEAN CONDENSATE PAN AND TRAP, AND VERIFY PITCH OF CONDENSATE DRAIN.

SUBMITTALS

PRIOR TO FABRICATION OR DELIVERY OF ANY MATERIAL OR EQUIPMENT, CONTRACTOR SHALL SUBMIT FIVE (5) SETS OF SHOP DRAWINGS AND TECHNICAL DATA SHEETS FOR EQUIPMENT AND MATERIALS SPECIFIED. THE ENGINEER SHALL REVIEW SHOP DRAWINGS AND TECHNICAL DATA SHEETS FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND ISSUE A WRITTEN ASSESSMENT TO THE OWNER PRIOR TO COMMENCEMENT OF WORK.

SUBMITTAL IS FOR INFORMATION AND COORDINATION ONLY. REVIEW OF MATERIAL AND/OR EQUIPMENT SUBMITTALS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO COMPLY WITH PLANS AND SPECIFICATION REQUIREMENTS. POINTS OF NON-COMPLIANCE WHICH ARE NOT NOTED SHALL NOT BE CONSTRUED TO BE AN APPROVAL OF THE NON-COMPLIANCE. SUBMITTALS SHALL CLEARLY STATE WHERE EQUIPMENT DOES NOT AGREE WITH THE CONTRACT DOCUMENTS.

INCLUDE DETAILED DRAWINGS WHERE REQUIRED FOR PROPER COORDINATION WITH OTHER TRADES. INDICATE EQUIPMENT LAYOUTS, ELECTRICAL CHARACTERISTICS, WIRING AND CONTROL DIAGRAMS, SIZES AND LOCATIONS OF PIPING, DUCTS, CONDUITS, AND OTHER ITEMS WHICH EFFECT THE SPACE AVAILABLE.

SUBMIT ITEMS AT ONE TIME IN A NEAT AND ORDERLY MANNER WITHIN 15 DAYS OF AWARD OF CONTRACT. PARTIAL LIST WILL NOT BE ACCEPTABLE. SUBMITTALS SHALL INCLUDE MANUFACTURER'S SPECIFICATIONS, PHYSICAL DIMENSIONS, WEIGHTS AND RATINGS OF EQUIPMENT SUBMITTED. SUBMITTALS SHALL BE INDEXED AND SECURELY BOUND IN A SUITABLE MANNER.

SUBMIT THE FOLLOWING ITEMS FOR APPROVAL: 1) CONTROLS; 2) AIR DEVICES, DAMPERS, AND ACCESS DOORS; 3) INSULATION; 4) EQUIPMENT, PIPING, PIPING ACCESSORIES, ETC.

CONTRACTOR SHALL IDENTIFY ANY DEVIATIONS IN SHOP DRAWINGS FROM THE DESIGN DOCUMENTS.

SUBSTITUTIONS SHALL BE SUBMITTED TO THE OWNER FOR CONSIDERATION PRIOR TO BIDDING. SUBSTITUTIONS SHALL BE PRE-APPROVED IN WRITING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING REQUIREMENTS ASSOCIATED WITH SUBSTITUTED EQUIPMENT OR MATERIALS WITH OTHER BUILDING TRADES INCLUDING ELECTRICAL, STRUCTURAL, AND ARCHITECTURAL ELEMENTS. CONTRACTOR SHALL IDENTIFY AND ANNOTATE REVISED REQUIREMENTS PER BUILDING TRADE ON THE SHOP DRAWINGS. CONTRACTOR SHALL ALSO IDENTIFY COST DEBITS OR CREDITS IN WRITING FOR THE PROPOSED CHANGES PER BUILDING TRADE.

RECORD DRAWINGS

CONTRACTOR SHALL MAINTAIN, TWO (2) SETS OF WHITE PRINTS OF DRAWINGS PERTAINING TO THE WORK. ONE (1) SET OF PRINTS SHALL BE KEPT ON SITE AND CHANGES OR DEVIATIONS FROM THE CONTRACT DRAWINGS SHALL BE CAREFULLY NOTED AS CHANGES OR DEVIATIONS ARE MADE. AT THE COMPLETION OF THE PROJECT AND BEFORE FINAL ACCEPTANCE OF THE WORK, COPY THE CHANGES, DEVIATIONS, AND COMPLEMENTARY INFORMATION ON THE OTHER SET OF PRINTS AND RETURN IT TO THE OWNER. THE COST OF PRINTS AND COSTS INVOLVED IN THE PREPARATION OF THESE RECORD DRAWINGS SHALL BE BORNE BY THE CONTRACTOR.

OPERATING AND MAINTENANCE INSTRUCTIONS

CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF MANUFACTURERS OPERATING AND MAINTENANCE INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT AND SYSTEM. COPIES SHALL BE COMPILED IN SETS AND PLACED IN A HARD COVER THREE RING BINDER WITH INDEX PAGE AND INDEX TABS. NAME TAG INFORMATION SUCH AS MANUFACTURER, TYPE, SIZE, CAPACITY, SERIAL NUMBER ETC., SHALL BE INCLUDED AS PART OF THE MANUAL.

PROVIDE WRITTEN OPERATING INSTRUCTIONS WITH DIAGRAMS FOR THE MECHANICAL UNITS.

THE OPERATING AND MAINTENANCE MANUALS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW.

PART 2 - PRODUCTS

GENERAL

PROVIDE EQUIPMENT AS SPECIFIED AND/OR SCHEDULED AND IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS. EQUIPMENT SHALL OPERATE ACCORDING TO THE MANUFACTURER'S "OWNER'S OPERATING AND MAINTENANCE MANUAL" TROUBLE-FREE PRIOR TO STARTING TEST AND BALANCE (TAB) WORK.

FURNISH AND INSTALL NEW PRODUCTS OF ESTABLISHED AND REPUTABLE MANUFACTURERS; SEE LIST OF ACCEPTABLE MANUFACTURERS ELSEWHERE IN THIS SPECIFICATION. ITEMS OF EQUIPMENT USED FOR SIMILAR PURPOSE SHALL BE OF THE SAME MANUFACTURER. MAKE NO SUBSTITUTIONS THAT WOULD LEAVE INADEQUATE OPERATING AND/OR SERVICING SPACE.

ACCESSORIES REQUIRED FOR PROPER OPERATION OF THE SYSTEMS, EVEN THOUGH NOT SPECIFICALLY INDICATED, SHALL BE INCLUDED AND INSTALLED. SUCH ACCESSORIES MAY INCLUDE, BUT ARE NOT LIMITED TO, FILTERS, CONDENSATE DRAINS, RELIEF VALVES, SERVICE VALVES, THERMOSTATS, SPACE SENSORS, VIBRATION ISOLATORS, ETC. MOTOR STARTERS FOR PREWIRED EQUIPMENT AND OTHER PROTECTION AND CONTROL DEVICES ARE INCLUDED IN THIS SPECIFICATION. STARTERS FOR NON-PREWIRED EQUIPMENT, I.E., FANS, ETC., ARE SPECIFIED BY ELECTRICAL.

SPECIFIC REFERENCE TO A MANUFACTURER'S PRODUCT IS ONLY TO ESTABLISH TYPE, QUALITY, AND PERFORMANCE REQUIRED. THESE QUALIFICATIONS ARE IN ADDITION TO THE REQUIREMENTS SHOWN ON THE PLANS AND ELSEWHERE IN THESE SPECIFICATIONS. LISTING OF ALTERNATE EQUIPMENT MANUFACTURERS SHALL NOT BE CONSTRUED AS AN UNCONDITIONAL APPROVAL OF THE PRODUCTS OF THOSE MANUFACTURERS.

DUCTWORK

DUCTWORK SIZES SHOWN ARE FREE AREA DIMENSIONS.

MATERIAL, CONSTRUCTION, AND INSTALLATION SHALL MEET REQUIREMENTS OF THE LATEST EDITION OF SMACNA HVAC DUCT CONSTRUCTION STANDARDS AND ASHRAE RECOMMENDATIONS, EXCEPT FOR MORE STRINGENT REQUIREMENTS SPECIFIED OR SHOWN ON DRAWINGS.

SUPPLY AND RETURN DUCT SHALL BE GALVANIZED SHEET METAL UNLESS OTHERWISE SPECIFIED.

MEDIUM PRESSURE DUCTWORK UPSTREAM OF AIR TERMINAL DEVICES SHALL BE 4" WG PRESSURE CLASS, AND LOW PRESSURE DUCTWORK DISTRIBUTION SHALL BE 2" WG PRESSURE CLASS.

FLEXIBLE DUCTWORK

FLEXIBLE DUCTWORK SHALL BE UL RATED FOR 12" WC POSITIVE PRESSURE, 2" WC NEGATIVE PRESSURE WITH A MAXIMUM VELOCITY OF 4000 FPM, BE LISTED AS A CLASS 1 CONNECTOR ACCORDING TO UL 181, AND MEET THE REQUIREMENTS OF NFPA 90A. MAXIMUM ASTM E-84 FIRE HAZARD RATING SHALL BE 25 FLAME SPREAD, 50 FUEL CONTRIBUTED AND 50 SMOKE DEVELOPED. UNINSULATED FLEXIBLE DUCT SHALL BE EQUIVALENT TO FLEXMASTER TYPE 4. JOINTS SHALL BE STEEL BAND-CLAMPED AND TAPE SEALED TO MAINTAIN INTEGRITY OF VAPOR BARRIER. FLEXIBLE INSTALLATION SHALL BE SUPPORTED AS TO ELIMINATE SAGS EXCEEDING 1/2" PER FOOT BETWEEN SUPPORTS.

FLEXIBLE DUCTWORK, CONNECTING TO UNINSULATED OR UNLINED DUCT, SHALL BE VINYL COATED FIBERGLASS CLOTH, 25 STRANDS PER INCH MINIMUM THREAD COUNT WITH CORROSION-RESISTANT HELICAL WIRE REINFORCEMENT.

FLEXIBLE DUCTWORK CONNECTING TO INSULATED OR LINED DUCT SHALL BE STEEL WIRE COIL REINFORCED, INSULATED (MINIMUM 6.0 R-VALUE) WITH A FLAME RETARDANT (UL LISTED) VAPOR BARRIER MEETING ASTM E-84 RATING.

FLEXIBLE DUCT SHALL BE SECURED TO RIGID DUCTWORK AND AIR DEVICES WITH SCREWS AND DRAWBANDS. LENGTH OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO 5'-0" AND SHALL NOT BE COMPRESSED. FLEXIBLE DUCTWORK SHALL NOT BE USED ABOVE INACCESSIBLE CEILINGS AND SHALL NOT PASS THROUGH WALLS.

DUCTWORK INSULATION

INSULATE SUPPLY AND RETURN AIR DUCTS AND PLENUMS. RETURN DUCTS (IN CEILING PLENUM) OF ASSOCIATED PLENUM RETURN AIR SYSTEM DO NOT NEED TO BE INSULATED. INSULATION SHALL BE OF FIBROUS GLASS DUCT WRAP WITH A MINIMUM R-VALUE OF 6.0. INSULATION SHALL MEET ALL CRITERIA AS PRESCRIBED IN SECTIONS 604.1 THROUGH 604.13 OF THE 2007 FLORIDA MECHANICAL CODE WITH SUPPLEMENTS. MATERIALS SHALL MEET REQUIREMENTS OF ADHESIVE AND SEALANT COUNCIL STANDARDS AND SMACNA AND HAVE FLAME SPREAD/SMOKE DEVELOPED RATING OF 25/50 OR LESS. INSULATION SHALL BE SECURED WITH WIRE TIES AT 12" ON CENTER OR WITH SELF-SEALING LAP AND TAPE JOINTS 3" ON CENTER AT FITTINGS. JOINTS SHALL BE COVERED WITH 3" WIDE FOIL REINFORCED KRAFT TAPE.

ADHESIVE OR MECHANICAL FASTENERS SHALL BE USED WHERE NECESSARY TO PREVENT SAGGING. VAPOR BARRIER PENETRATIONS BY MECHANICAL FASTENERS SHALL BE SEALED WITH VAPOR BARRIER ADHESIVE. INSULATION SHALL STOP AND POINT AROUND ACCESS DOORS AND DAMPER OPERATORS TO ALLOW OPERATION WITHOUT DISTURBING WRAPPING.

PROVIDE ACOUSTICAL DUCT LINER (2" THICK, MINIMUM 6.0 R-VALUE) ON NEW SUPPLY DUCTWORK, RETURN DUCTWORK, AND PLENUMS 10'-0" UPSTREAM AND DOWNSTREAM OF FANS, LOW PRESSURE DUCTWORK 10'-0" DOWNSTREAM OF TERMINAL BOXES, AND WHERE INDICATED ON DRAWINGS. DUCT LINER SHALL BE APPLIED TO DUCTWORK WITH FIRE RESISTANT ADHESIVES AND COPPER OR CADMIUM PLATED MECHANICAL FASTENERS.

RECTANGULAR DUCTWORK SHALL BE LINED WITH SCHULLER "LINACOUSTIC HP" FIBERGLASS DUCTLINER. ROUND DUCTWORK SHALL BE LINED WITH SCHULLER "SPIRACOUSTIC" 1-INCH THICK PREFORMED FIBERGLASS ROUND DUCT LINER.

DUCTWORK ACCESSORIES AND MISCELLANEOUS

DUCT HANGERS SHALL BE CONSTRUCTED OF GALVANIZED STEEL. DUCTS SHALL BE SUPPORTED AND CONNECTED TO THE STRUCTURE PER SMACNA DUCT CONSTRUCTION STANDARDS. FLEXIBLE DUCTS SHALL BE SUPPORTED WITH GALVANIZED STRAPS.

PROVIDE FIRE DAMPERS THROUGHOUT AIR DISTRIBUTION SYSTEM AS SHOWN ON DRAWINGS AND AS REQUIRED BY APPLICABLE CODES, STANDARDS, AND AUTHORITIES. PROVIDE ACCESS DOOR FOR EACH FIRE DAMPER OF SUFFICIENT SIZE TO REPAIR INTERNAL LINK. BLADES OF DAMPERS SHALL BE OUT OF AIR STREAM. DAMPERS SHALL BEAR 1-1/2 HOUR MINIMUM UL-RATING FIRE DAMPER LABEL AND SHALL BE CONSTRUCTED AND INSTALLED AS REQUIRED BY UL 555. FUSIBLE LINKS SHALL BE RATED AT 165° F MINIMUM TEMPERATURE.

PATCH AND SEAL OPENINGS IN EXISTING DUCTWORK NOT UTILIZED FOR NEW LAYOUT.

SEAL DUCT PENETRATIONS THROUGH WALLS.

SEAL TRANSVERSE JOINTS AND LONGITUDINAL DUCT SEAMS WITH APPROVED MASTIC. DUCT TAPES SHALL NOT BE ALLOWED FOR RIGID DUCTWORK.

WHEN SECTION OF DUCTWORK IS NOT LABELED FOR SIZE, THE LARGER SIZE INDICATED ON THE CONNECTED DUCT SHALL PREVAIL. SIZE OF DUCT RUN-OUTS TO DIFFUSER SHALL EQUAL DIFFUSER NECK SIZE UNLESS NOTED OTHERWISE.

DUCT BRANCH CONNECTION AND TAKE OFFS SHALL BE MADE WITH 45° CONNECTION, BELLMOUTH OR CONICAL ONLY. SPIN IN COLLARS AND STRAIGHT TAPS SHALL NOT BE USED.

RADIUSED ELBOWS OR MITERED ELBOWS WITH SINGLE THICKNESS TURNING VANES SHALL BE UTILIZED. TURNING VANES SHALL BE SUPPORTED AT INTERVALS OF 36" MAXIMUM. TURNING VANE RUNNERS SHALL HAVE A VANE IN EVERY SLOT.

DUCTWORK SHALL NOT RUN ALONG FULL HEIGHT PARTITIONS.

DUCTWORK VISIBLE BEHIND DIFFUSERS, REGISTERS, OR GRILLES SHALL BE PAINTED FLAT BLACK.

VOLUME DAMPERS SHALL BE CONSTRUCTED OF 16 GAUGE GALVANIZED STEEL, BE OF THE OPPOSED BLADE TYPE AND BE FURNISHED WITH LOCKING AND INDICATING QUADRANTS. DAMPERS FOR ROUND DUCTS SHALL BE SINGLE-BLADE TYPE.

DRAWING ISSUE LOG	
NO.	DESCRIPTION
1	ISSUED FOR PERMITS
2	ISSUED FOR PERMITS
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CARPENTER SELLERS DEL GRITTO ARCHITECTS

MECHANICAL SPECIFICATIONS
A COMMERCIAL TENANT IMPROVEMENT FOR
UNIVERSITY OF PHOENIX - WEST PALM BEACH, FL
7111 FARWAY DRIVE
PALM BEACH GARDENS, FL 33418
(REMODEL)

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NO.	DESCRIPTION

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DO NOT SCALE DRAWINGS

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