

GENERAL MECHANICAL NOTES:

- CODES AND STANDARDS LISTED IN SPECIFICATIONS AND DRAWINGS ARE MINIMUM STANDARDS. WHERE REQUIREMENTS ON THE DRAWINGS OR SPECIFICATIONS EXCEED THE MINIMUM CODE REQUIREMENTS, THE DRAWINGS OR SPECIFICATIONS SHALL GOVERN.
- THE POWER RATING OF MOTORS AND OTHER MECHANICAL EQUIPMENT AND THE ELECTRICAL CHARACTERISTICS OF ELECTRICAL SYSTEMS SERVING THEM HAVE BEEN ESTABLISHED AS MINIMUMS WHICH ALLOW THAT EQUIPMENT TO FUNCTION PROPERLY TO PRODUCE THE REQUIRED CAPACITIES. POWER RATINGS INCLUDE REASONABLE SAFETY FACTORS TO ACCOMMODATE COMMON DIFFERENCES BETWEEN DESIGN PARAMETERS AND FIELD CONSTRUCTION PRACTICES. EQUIPMENT WITH POWER RATINGS LESS THAN THOSE INDICATED ON THE DRAWINGS SHALL NOT BE PERMITTED.
- REASONABLE EFFORTS HAVE BEEN MADE TO COORDINATE ELECTRICAL REQUIREMENTS OF MECHANICAL EQUIPMENT WITH THE ELECTRICAL SYSTEMS SERVING THAT EQUIPMENT. DIFFERENCES AMONG MANUFACTURERS OF MECHANICAL EQUIPMENT MAKE IT IMPOSSIBLE TO PRODUCE A SINGLE ELECTRICAL DESIGN WHICH WILL SATISFY THE VARYING ELECTRICAL REQUIREMENTS OF THE THOSE MANUFACTURERS. CONSEQUENTLY, THE CONTRACTOR SHALL COORDINATE THE ELECTRICAL REQUIREMENTS OF THE MECHANICAL EQUIPMENT ACTUALLY FURNISHED ON THIS PROJECT WITH THE EQUIPMENT ACTUALLY FURNISHED AND PROVIDE ELECTRICAL SYSTEMS REQUIRED BY THAT EQUIPMENT. THIS COORDINATION EFFORT SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF EITHER THE MECHANICAL EQUIPMENT OR THE ELECTRICAL SYSTEMS SERVING THAT EQUIPMENT. ELECTRICAL SYSTEM REVISIONS REQUIRED TO COORDINATE WITH THE MECHANICAL EQUIPMENT ACTUALLY FURNISHED SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- DRAWINGS INDICATE GENERAL LOCATIONS OF FIXTURES, APPARATUS, EQUIPMENT, PIPING, AND DUCTWORK. CHANGES ON LOCATION SHALL BE MADE TO ACCOMMODATE EXISTING OR NEW BUILDING CONDITIONS AND COORDINATION WITH OTHER TRADES, INCLUDING HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, STRUCTURAL, AND ARCHITECTURAL. SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.
- THOROUGHLY CLEAN/FLUSH ALL (EXISTING AND NEW) HYDRONIC PIPING SYSTEMS WITH CLEAN WATER. AFTERWARDS, REMOVE AND CLEAN OR REPLACE STRAINER SCREENS.
- ALL HVAC SYSTEMS SHALL BE TESTED AND BALANCED ACCORDING TO NEBB AND SMACNA STANDARDS.
- PROVIDE ACCESS TO EQUIPMENT AND PORTIONS OF BUILDING SYSTEMS REQUIRING SERVICE.
- DO NOT INSTALL DUCTWORK, PIPING, OR EQUIPMENT IN ELECTRICAL ROOMS, ELEVATOR ROOMS, OR ELEVATOR SHAFTS, UNLESS EXPLICITLY INDICATED ON THE DRAWINGS. PIPING, DUCTWORK, AND EQUIPMENT (SWITCHGEAR, SWITCHBOARDS, PANELS, MOTOR CONTROL CENTERS, VARIABLE FREQUENCY DRIVES, TRANSFORMERS, OR STARTERS) SHALL NOT BE INSTALLED DIRECTLY ABOVE OR 42" IN FRONT OF ELECTRICAL EQUIPMENT FROM THE FLOOR TO THE STRUCTURE ABOVE.
- UNLESS INDICATED OTHERWISE, EQUIPMENT AND MATERIALS SHALL BE NEW AND OF THE CUSTOMARY STANDARD AND QUALITY FURNISHED BY THE DESIGNATED MANUFACTURER FOR THAT CATALOG NUMBER.
- AIR SYSTEMS SHALL OPERATE WITHOUT AERODYNAMIC NOISE GENERATED FROM FAULTY INSTALLATION OF DUCTWORK, DIFFUSERS, OR ANY PORTION OF THE AIR DISTRIBUTION SYSTEM.
- SUPPORT PIPING INDEPENDENTLY OF EQUIPMENT. HANGER RODS SHALL BE SUSPENDED FROM THE STRUCTURE. DO NOT SUSPEND FROM OTHER PIPING, CONDUIT, EQUIPMENT, OR DUCTWORK.
- ALL WORK REFERENCED UNDER DIVISION 15 SHALL BE DONE BY THE MECHANICAL CONTRACTOR.
- DRAWINGS INDICATE DESIGN INTENT. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL INSTALLATIONS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION BETWEEN OTHER TRADES TO ASSURE THE PROPER INSTALLATION OF ALL EQUIPMENT.
- ALL PIPING, DUCTWORK, INSULATION, CONDUITS, SUPPORTS AND HVAC EQUIPMENT EXPOSED TO VIEW SHALL BE PAINTED. COLOR SHALL BE SELECTED BY ARCHITECT.
- WHERE DUCTWORK IS EXPOSED DUCT SEAMS SHALL BE MINIMIZED AND SHALL BE OF HIGH QUALITY WORKMANSHIP.
- HVAC CONTRACTOR TO PROVIDE ALL WALL AND CEILING ACCESS PANELS REQUIRED FOR FIRE DAMPERS AND FIRE/SMOKE DAMPERS, COORDINATE FINAL LOCATION WITH ARCHITECT.
- ALL FIRE DAMPERS AND FIRE/SMOKE DAMPERS TO BE DYNAMIC RATED TYPE "B" DAMPERS WITH ACCESS PANELS IN DUCTWORK. ALL DAMPERS TO BE INSTALLED PER MANUFACTURER INSTRUCTIONS WITH BREAKAWAY IN DUCTWORK.

GENERAL AUTOMATIC TEMPERATURE CONTROLS NOTES:

- TRANSFORMERS OR FILTERS FOR OPERATION OF AUTOMATIC TEMPERATURE CONTROLS FROM BUILDING POWER CIRCUITS SHALL BE PROVIDED UNDER DIVISION 23.
- WIRING LOWER THAN 110 VOLTS FOR INTERLOCKED DEVICES, DDC CONTROLLERS, TERMINAL CONTROL UNITS, FLOW MEASURING DEVICES, AND OTHER POWER CONSUMING CONTROL DEVICES SHALL BE FURNISHED AND INSTALLED UNDER MECHANICAL CONTRACT. WIRING 110 VOLTS AND HIGHER FOR INTERLOCKED DEVICES, DDC CONTROLLERS, TERMINAL CONTROL UNITS, FLOW MEASURING DEVICES, AND OTHER POWER CONSUMING CONTROL DEVICES SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 26.
- PROVIDE SUPPLEMENTAL STIFFENING AND SUPPORTS TO DUCTS AND APPARATUS CASINGS TO PREVENT DRUMMING, SAGGING AND TO PROVIDE A STRUCTURALLY SOUND ASSEMBLY.
- BRANCH CIRCUIT WIRING AND CONDUIT FURNISHED FOR CONTROL EQUIPMENT POWER SHALL BE SEPARATE FROM OTHER POWER WIRING. EACH CIRCUIT SHALL EXTEND TO A 120V BRANCH CIRCUIT PANEL, AND IDENTIFIED 120V, 20 AMPERE, SINGLE POLE BRANCH CIRCUIT BREAKER FURNISHED IN THE PANEL TO SERVE THE CIRCUIT. NO MORE THAN 2 DDC CONTROLLER INSTALLATIONS SHALL OPERATE FROM A SINGLE 120V BRANCH CIRCUIT, UNLESS INDICATED OTHERWISE.
- WHERE SYSTEMS ARE SERVED BY EMERGENCY POWER, CONTROLS FOR OPERATION OF THOSE SYSTEMS SHALL ALSO BE SERVED BY EMERGENCY POWER.
- WHERE DAMPERS PREVENT AIRFLOW THROUGH AN AIR HANDLING UNIT OR FAN, THOSE DAMPERS SHALL BE PROVEN OPEN PRIOR TO STARTING THE UNIT OR FAN. PROOF SHALL BE BY MECHANICAL SAFETY LIMIT SWITCH ACTIVATED BY THE DAMPER BLADE. FOR SERVICE WITH VARIABLE FREQUENCY DRIVES THE SWITCH SHALL BE WIRED IN THE AUTOMATIC AND HAND/TEST POSITIONS AND IN THE BYPASS POSITION FOR VARIABLE FREQUENCY DRIVES WITH BYPASS.
- ALL LOW VOLTAGE WIRING SHALL BE PLENUM RATED. MECHANICAL CONTRACTOR SHALL FURNISH ALL LOW VOLTAGE WIRING REQUIRED FOR AUTOMATIC TEMPERATURE CONTROL SYSTEMS. LOW VOLTAGE WIRING IS ALL WIRE OPERATING AT A VOLTAGE LOWER THAN 110 VOLTS.

GENERAL PIPING NOTES:

- INSTALL PIPING TO ALLOW ACCESS VALVES, AIR VENTS, EQUIPMENT REQUIRING ACCESS, AND TO PROVIDE MAXIMUM HEADROOM.
- INSTALL VALVES IN HORIZONTAL PIPING WITH VALVE STEMS AT OR ABOVE THE PIPE CENTERLINE.
- ARRANGE PIPING FOR VENTING OF AIR AND DRAINAGE OF ENTIRE SYSTEM.

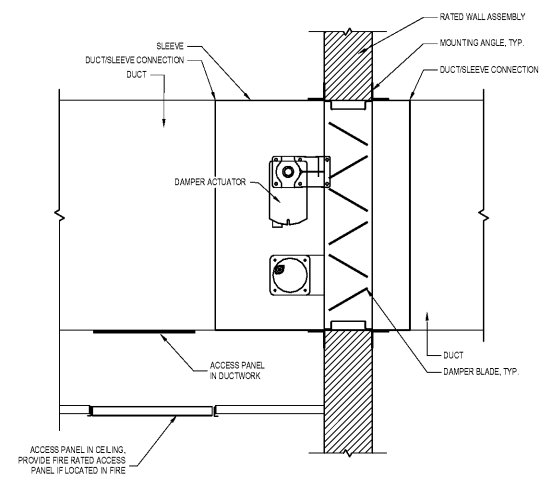
GENERAL DUCTWORK NOTES:

- ALL DUCTWORK TO BE GALVANIZED EXCEPT AS NOTED OTHERWISE. ALL DRYER DUCTWORK TO BE ALUMINUM. ALL POOL, POOL EQUIPMENT ND POLL RESTROOM DUCTWORK TO BE ALUMINUM.
- CHANGES IN SHAPE OR DIMENSION SHALL BE MADE WITH MAXIMUM TRANSITION OF 1 TO 7.
- SEPARATE GALVANIZED SHEET METAL FROM ALUMINUM OR COPPER WITH LEAD OR FELT GASKETS.
- PROVIDE SUPPLEMENTAL STIFFENING AND SUPPORTS TO DUCTS AND APPARATUS CASINGS TO PREVENT DRUMMING, SAGGING AND TO PROVIDE A STRUCTURALLY SOUND ASSEMBLY.
- PROVIDE OFFSETS AND TRANSITIONS TO COORDINATE WITH OTHER WORK.
- PROVIDE DUCTWORK AND TRANSITIONS TO CONNECT DUCTWORK TO EQUIPMENT AND COILS.
- INSTALL FLEXIBLE DUCTWORK IN A FULLY EXTENDED CONDITION WITHOUT SAGS AND KINKS.
- INSTALL DUCT MOUNTED SMOKE DETECTORS IN ACCESSIBLE LOCATIONS.
- UNLESS NOTED OTHERWISE, PROVIDE 1" THICK DUCT LINING FOR A MINIMUM OF 10 FEET OF DUCTWORK FROM THE SUPPLY AIR DISCHARGE AND RETURN AIR INLET OF AIR HANDLING UNITS, FAN COIL UNITS, SPLIT SYSTEMS, AND BLOWER COILS. FOR ALL LINED DUCTWORK, DIMENSIONS INDICATED ON DRAWINGS SHALL BE INSIDE CLEAR DIMENSIONS MEASURED FROM FACE OF LINER TO FACE OF LINER.
- ALL FIRE DAMPERS AND FIRE/SMOKE DAMPERS TO BE DYNAMIC RATED TYPE "B" DAMPERS WITH ACCESS PANELS IN DUCTWORK. ALL DAMPERS TO BE INSTALLED PER MANUFACTURER INSTRUCTIONS WITH BREAKAWAY IN DUCTWORK.
- ALL 4" DIAMETER EXHAUST DUCTWORK TO BE MINIMUM 26 GAGE SHEETMETAL.
- ALL SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK TO BE INSULATED, REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- ROOF MOUNTED DUCTWORK TO BE DOUBLE WALL WITH INSULATION BETWEEN WALLS WITH EPDM WEATHERPROOFING. EPDM WEATHERPROOFING COLOR TO MATCH ROOF. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.

GENERAL CUTTING AND PATCHING NOTES:

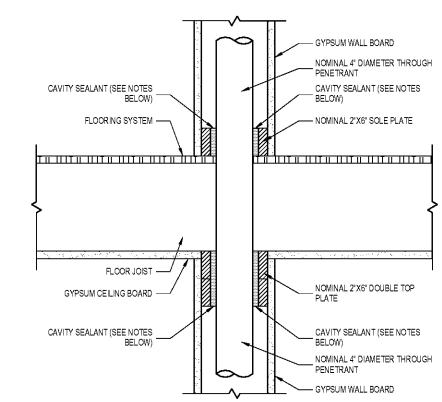
- WHERE EXISTING WALLS, ROOFS, FLOORS, ETC ARE REQUIRED TO BE CUT OR PENETRATED, THE CONTRACTOR SHALL PROVIDE BOTH THE MEANS FOR CUTTING AND ROUGH PATCHING AS REQUIRED.
- ROUGH PATCHING SHALL BE DONE IN A MANNER THAT TEMPORARILY SEALS THE BUILDING ENVELOPE WEATHER TIGHT IN PREPARATION FOR FINAL PATCHING BY THE GENERAL CONTRACTOR.
- THIS CONTRACTOR SHALL FULLY COORDINATE WITH THE GENERAL CONTRACTOR AS TO NOT ALLOW ANY PORTION OF THE BUILDING ENVELOPE TO REMAIN UN-FINISHED OR WEATHER SEALED FOR ANY AMOUNT OF TIME.

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- NOTES:**
- PROVIDE SMOKE DETECTOR WITHIN 6'-0" OF THE FIRE/SMOKE DAMPER UPON DETECTION OF SMOKE BY DETECTOR DAMPER SHALL MODULATE CLOSED.
 - COMPLETELY CAULK ANY OPENINGS BETWEEN DAMPER SLEEVE AND RATED WALL ASSEMBLY WITH WOODCAULK.
 - INSTALLATION SHALL BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - CONTRACTOR TO PROVIDE ACCESS PANEL IN DUCTWORK FOR DAMPER ACCESS.
 - CONTRACTOR TO PROVIDE ACCESS PANEL IN CEILING, PROVIDE FIRE RATED ACCESS PANEL IF LOCATED IN FIRE RATED CEILING.

1 FIRE/SMOKE DAMPER INSTALLATION DETAIL
 SCALE: NOT TO SCALE



- NOTES:**
- THIS DETAIL IS PRESENTED IN ACCORDANCE WITH UL THROUGH-PENETRATION FIRESTOP SYSTEM NO. FC-7034.
 - REFER TO ARCHITECTURAL PLANS FOR EXACT FLOOR SYSTEM CONSTRUCTION DETAILS.
 - THROUGH PENETRANT SHALL BE NOMINAL 4" DIA. NO. 30 GAUGE (OR HEAVIER) STEEL DUCT AND SHALL BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR ASSEMBLY. THE ANNULAR SPACE SHALL NOT EXCEED 1/2".
 - CAVITY SEALANT SHALL BE A MINIMUM 3/4" THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS. FLUSH WITH TOP SURFACE OF SOLE PLATE. A GENEROUS BEAD OF FILL MATERIAL SHALL ALSO BE APPLIED WITHIN THE ANNULUS OF THE TOP PLATE. FLUSH WITH THE BOTTOM OF THE TOP PLATE. MATERIAL SHALL BE TYPE WFS300 CAULK.

2 EXHAUST DUCT PENETRATION DETAIL
 SCALE: NOT TO SCALE

No.	Description	Date

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SEAL:

MECHANICAL DETAIL AND SPECIFICATIONS

HOLIDAY INN EXPRESS & SUITES
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