



Division of Building Regulation

Submission Requirements for Commercial Mechanical System Plan Review

When applying for a mechanical permit, three (3) copies of plans and specification of the proposed work shall be submitted for new buildings. For existing buildings two (2) copies of the plans and specifications of the proposed work shall be submitted.

The plans shall be drawn to a scale with sufficient clarity and detail to show the extent and intension of the work being permitted. All submittals shall be accompanied by a completed Mechanical Permit Application.

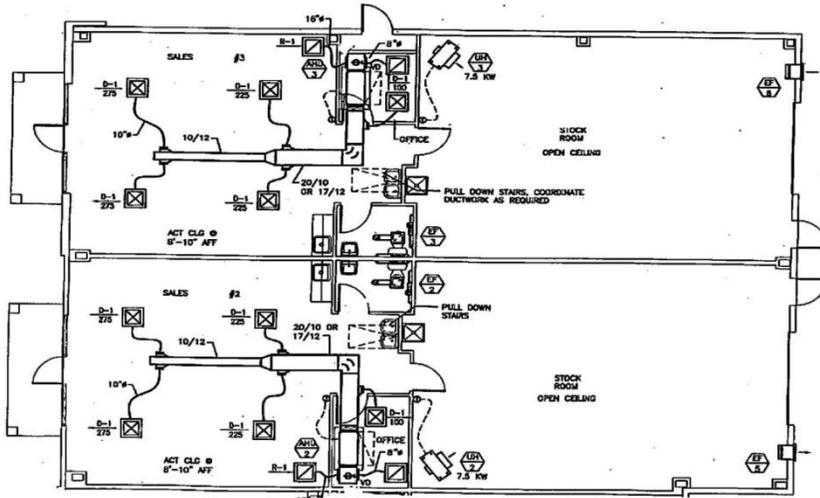
Mechanical Plans shall include:

1. Building floor plan(s) with room designation, occupant load and CFM at each supply diffuser. (See Exhibit "A")
2. Location(s) of mechanical systems components.
3. Supply, return and ventilation ductwork layout including sizes and material. (See Exhibit "A")
4. All mechanical systems piping, including sizes and materials. (See Exhibit "B")
5. Specifications shall include mechanical equipment, cooling, heating and outside air capacities, duct work and piping materials.
6. Insulation R-value for duct work and piping.
7. New buildings are required to comply with the energy conservation provisions of the Virginia Energy Code, submit documentation to support the mechanical design compliance i.e. ASHRAE 90.1-2010, ComCheck (www.energycodes.gov/comcheck)

Mechanical plans and specification shall include the seal and signature of the design professional under whose supervision they were prepared **OR** if exempt under the provisions of Title 54.1-402 of the Virginia Code, the name, address and Master Tradesman card number of the Master Mechanic under whose supervision the documents were prepared shall be affixed to each page of the plans.

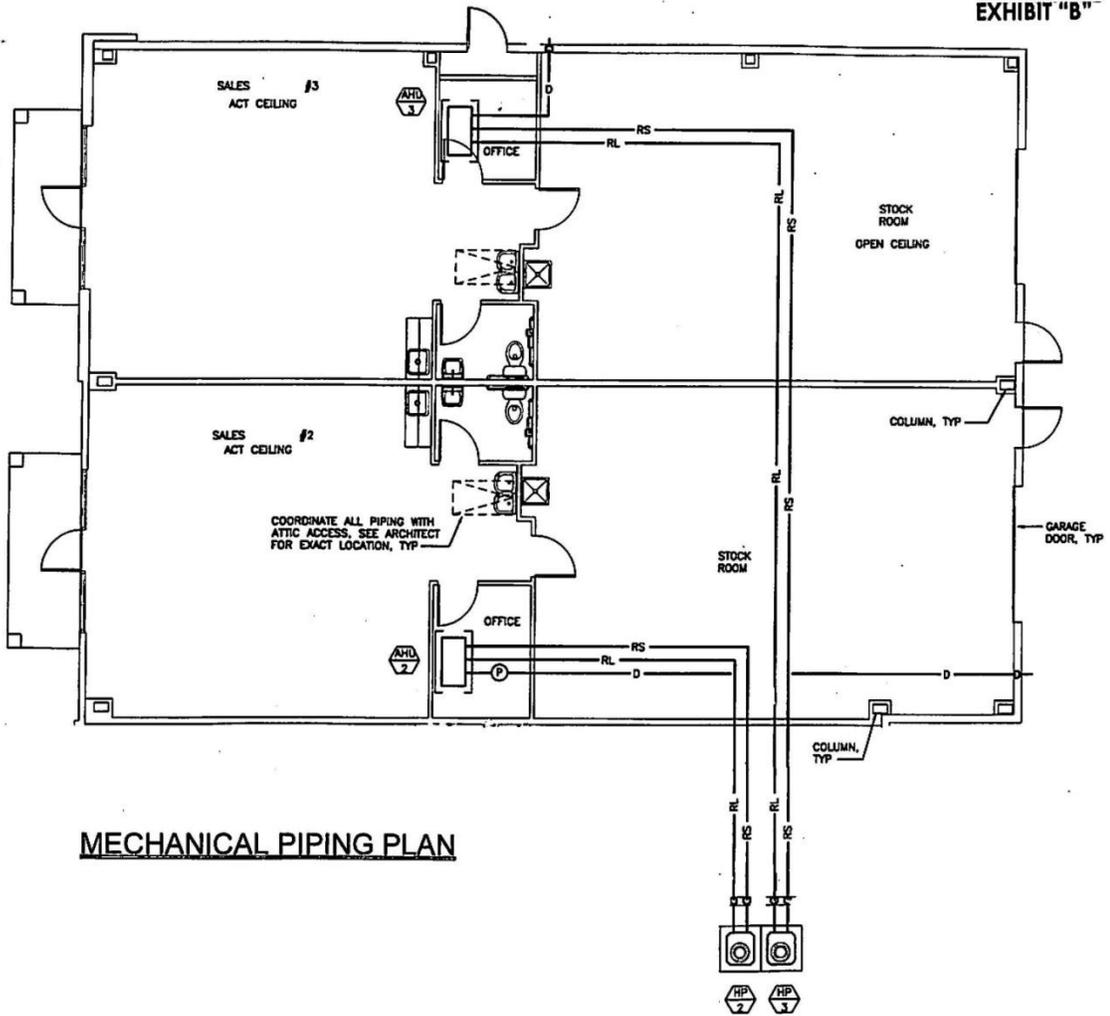
AHU #2 (TENANT SPACE #2)	
RETAIL SPACE	
(A) NET AREA	877 SF
(B) OCCUPANCY	15 PEOPLE/1000 SF
(P) CITY OF PEOPLE	10 PEOPLE
(R) VENTILATION RATE (PEOPLE)	7.5 CFM/P
(RPP) CFM FOR OCCUPANCY (PEOPLE)	75 CFM
(RA) VENTILATION RATE (AREA)	.12 CFM/SF
(RAA) FRESH AIR REQUIRED (AREA)	81 CFM
(VA) TOTAL FRESH AIR REQUIRED	156 CFM
OFFICE	
(A) NET AREA	72 SF
(B) OCCUPANCY	5 PEOPLE/1000 SF
(P) CITY OF PEOPLE	1 PERSON
(R) VENTILATION RATE (PEOPLE)	5 CFM/P
(RPP) CFM FOR OCCUPANCY (PEOPLE)	5 CFM
(RA) VENTILATION RATE (AREA)	.08 CFM/SF
(RAA) FRESH AIR REQUIRED (AREA)	4 CFM
(VA) TOTAL FRESH AIR REQUIRED	9 CFM
TOTAL FOR AHU #2 = 165 CFM	
EF #5	
BACKROOM STOCK (TENANT SPACE #3)	
(A) NET AREA	385 SF
(R) VENTILATION RATE	.12 CFM/SF
(VA) TOTAL FRESH AIR REQUIRED	108 CFM
AHU #3 (TENANT SPACE #3)	
RETAIL SPACE	
(A) NET AREA	668 SF
(B) OCCUPANCY	18 PEOPLE/1000
(P) CITY OF PEOPLE	10 PEOPLE
(R) VENTILATION RATE (PEOPLE)	7.5 CFM/P
(RPP) CFM FOR OCCUPANCY (PEOPLE)	75 CFM
(RA) VENTILATION RATE (AREA)	.12 CFM/SF
(RAA) FRESH AIR REQUIRED (AREA)	80 CFM
(VA) TOTAL FRESH AIR REQUIRED	153 CFM
OFFICE	
(A) NET AREA	69 SF
(B) OCCUPANCY	5 PEOPLE/1000
(P) CITY OF PEOPLE	1 PERSON
(R) VENTILATION RATE (PEOPLE)	5 CFM/P
(RPP) CFM FOR OCCUPANCY (PEOPLE)	5 CFM
(RA) VENTILATION RATE (AREA)	.08 CFM/SF
(RAA) FRESH AIR REQUIRED (AREA)	4 CFM
(VA) TOTAL FRESH AIR REQUIRED	9 CFM
TOTAL FOR AHU #3 = 164 CFM	
EF #6	
BACKROOM STOCK (TENANT SPACE #2)	
(A) NET AREA	877 SF
(R) VENTILATION RATE	.12 CFM/SF
(VA) TOTAL FRESH AIR REQUIRED	105 CFM

VENTILATION CALCULATIONS



MECHANICAL DUCTWORK PLAN

EXHIBIT "A"



MECHANICAL PIPING PLAN