

## **SANFORD HALL**

Sanford Hall was originally constructed in 1996 and had its HVAC control system modernized in 2018. Sanford spans three stories and 37,294 square feet of floor area. The building is served by one central, variable volume air handling unit (AHU) located in the penthouse with 35 fan powered variable air volume terminal units located in above ceiling ductwork to vary airflow to individual spaces and provide heating based on space temperatures. Outdoor ventilation air is drawn into the building at the air handling unit directly and makes up approximately 15% of the total air supply in the building.

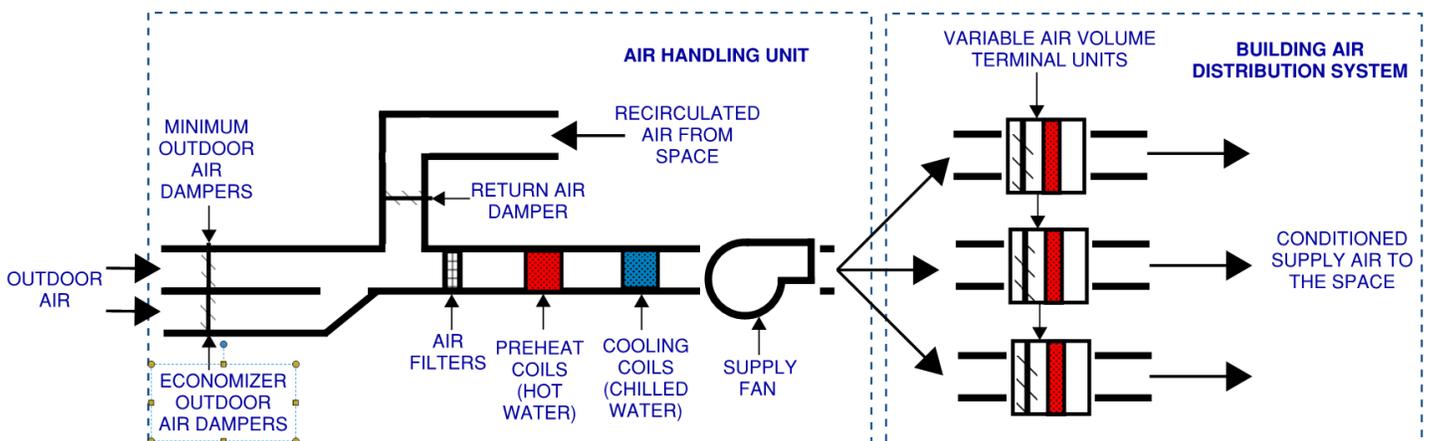
Four Fan Coil Units (FCUs) provide heating and cooling in the stairwells.

## **VARIABLE VOLUME AIR HANDLING UNITS**

The air handling units deliver a variable volume of conditioned air consisting of a mixture of recirculated building air and fresh air from outside of the building. The building return air is filtered, mixed with outdoor air and cooled with chilled water coils in the air handling units before being supplied to rooms throughout the building via above ceiling ductwork. The fan-powered, variable air volume zone terminal units (FPVAVs) are equipped with an air damper to regulate the volume of air delivered from the central AHUs along with a fan, a hot water coil and a filter combination that will mix in air from the above ceiling plenum with the conditioned air from the central AHUs when the space requires heating. The central air handling unit supplies cool air to the building and the FPVAVs regulate the airflow to individual zones (rooms or a series of adjacent rooms) and provide heating as needed based on space temperatures.

Air is recirculated from the building back to the air handling unit through ceiling mounted air return registers located in each space. Return air is pulled from a plenum space above the ceiling. Exhaust is provided in restrooms on each floor to remove odors and to maintain a slightly positive building pressurization.

Chilled water is supplied throughout the building from the campus chilled water system. Heating hot water, distributed throughout the building for heating, is generated from a steam to hot water heat exchanger using the central campus steam system.

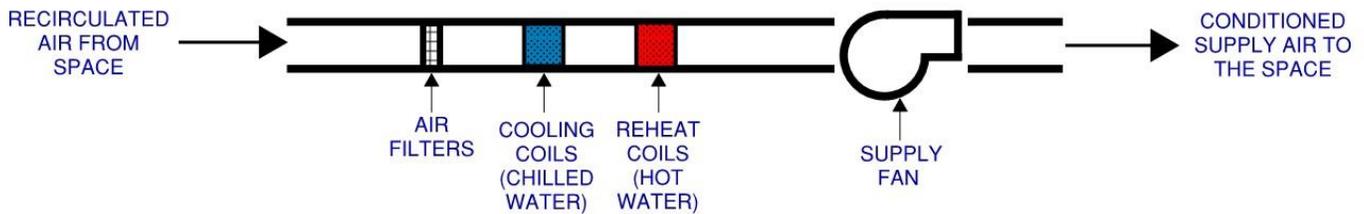


**VARIABLE VOLUME AIR HANDLING UNIT SCHEMATIC**

## FAN COIL UNITS

A fan coil unit is fairly simple: it's a fan with a coil or coils (like a car radiator) that can add heating and cooling to the air stream flowing through it. The FCUs have air filters to remove particulate matter from the air, a hot water coil and chilled water coil for heating and cooling the air, and a supply fan for forced air circulation through the unit and into the space. There is no ventilation air provided for these FCUs because they are located in spaces with transient occupancy.

Chilled water is supplied throughout the building from the campus chilled water system. Heating hot water, distributed throughout the building for heating, is provided from the campus heating hot water system.



**4-PIPE FAN COIL UNIT SCHEMATIC**