

# Metropolitan Life Office Building

Application: AHU Silencers (Centrifugal Fans)

A multi-story office building was upgraded by reducing noise from existing on-floor AHUs.

## ! CHALLENGE

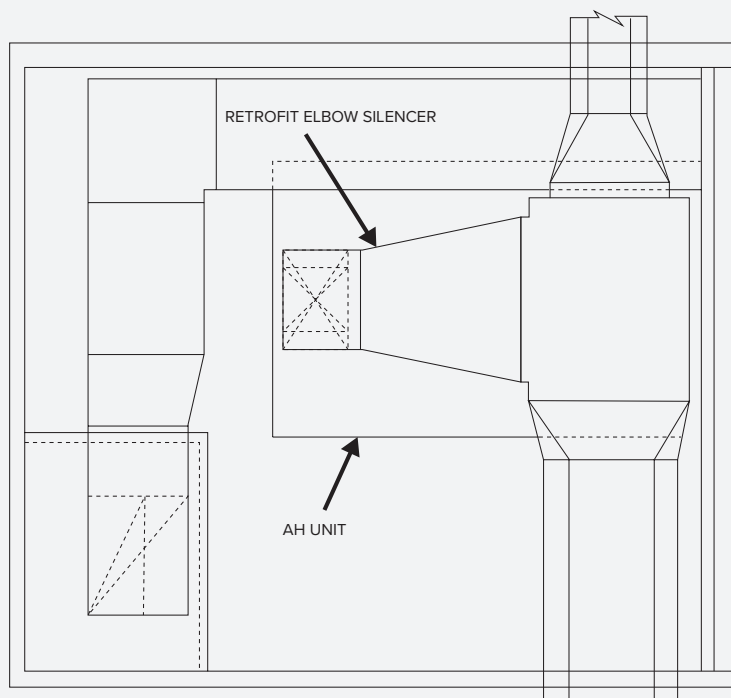
- > Insufficient Straight Duct
- > Excessive Energy Consumption
- > Excessive Pressure Drop
- > Unacceptable Installed Performance

Special silencers had to fit into the existing ductwork and there were no straight runs. Saving energy was a prime objective. Since the fans and motors existed, added pressure drop had to be minimal. Guaranteed performance was required because of the substantial investment and the critical nature of the retrofit upgrade. Multiple silencers, all the same size, were required.

## 🔊 SOLUTION

### TRANSITIONAL ELBOW SILENCERS, EX-TYPE ELBOW SILENCERS AND SILENCER WITNESS TEST

Transitional elbow silencers were designed to replace existing the duct fittings. The body size of the silencer was designed to be much larger than the connection size allowing more free area within the silencer. A witness test on an actual size production silencer was conducted in the V-A aero-acoustic laboratory for the mechanical and acoustical consultants. Performance was achieved in the lab and in the final installation.



Mechanical room drawing (plan view) shows existing ductwork and complex fitting replaced by the elbow transitional silencer.