

# Waterpark Office Building

Application: AHU Silencers (Axial Fans)

## ! CHALLENGE

- > Low Frequency Noise
- > Excessive Energy Consumption

The specified noise criterion was Nc-35 including the ultra low frequency octave band centered at 63 hz. Minimum energy was also an objective. Breakout noise through the ceiling adjacent to the mechanical rooms was the critical path.

To ensure performance, a prototype fan / silencer system was specified to be factory tested and witnessed by the consulting engineer.

25 compact mechanical rooms in the office tower required 22,500 CFM horizontal axial fan/silencing systems expand into occupied ceiling spaces.

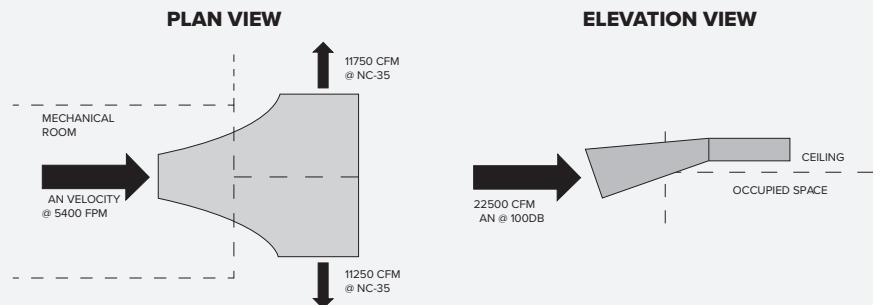
## ✓ SOLUTION

### AXIAL FAN / SILENCER PACKAGE SUPPLY

The consulting engineer specified variable pitch-in-motion axial fans for min. ultra-low frequency rumble and energy consumption. Silencers were designed to minimize aerodynamic losses. The resulting transitioning “y” discharge silencing, reduced both generated noise and energy losses.

### PROTOTYPE TESTING

V-A built and tested a full scale prototype system, including an AHU and inlet discharge silencing systems to prove performance.



Schematic view shows critical transitioning “y” silencer required to achieve NC-35 and low energy consumption