

# GEATAIN ENGINEERING

## CASE STUDY-THE SERRANO



### BACKGROUND

The Serrano at 1735 York Avenue is a 375,103 square foot luxury high-rise apartment building constructed in 1986. The building is 37 stories and a total of 265 apartment units. The building is heated by two Cleaver Brooks 300 HP gas boilers that were converted to natural gas 10 years ago. The system is maintained at 8 psi uses a vacuum pump. The two-pipe heating system is well insulated and terminal units for apartments are fan coils. The heating system is controlled by a Stealth EnTech system. Domestic Hot Water is provided by four Leslie Steam Water Heaters. Cooling is provided by one rooftop AHU for the hallways, a cooling tower is in the garage for common areas and certain floors. A small and large mushroom fan provides kitchen and restroom ventilation. Common area lighting is all LED with a variety in the apartment units. The HVAC controls are lacking and in poor condition.

### HOW GEATAIN ENGINEERING HELPED

- Surveyed property to decrease plug loads through smart strips and equipment sleep modes, resulting in multiplicative plug load savings.
- Adjusted temperature setpoints to match seasonal variations to decrease summer cooling and winter heating.
- Sequenced implementation of EEMs to attain maximum monthly savings with least capital outlay.

### BENEFITS

- Increased natural ventilation provides considerable fall and spring savings.
- Uncovered obscure funding opportunities to decrease burden of equipment improvements.



### CHALLENGES

- The boiler is in poor condition due to boiler pressure.
- Many of the mechanical systems in the building are in poor condition leading massive energy expenditures and losses.

### SOLUTIONS

- Heating control.
- Natural ventilation.
- Unit lighting/plug loads.
- Unit thermostats.
- Risers.
- Unit fan coil replacement.
- Tenant load reduction.

### ANNUAL SAVINGS

\$ 191,496

For more information,  
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