

# AMERESCO QUANTUM

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## Seattle Central Community College

### Energy Savings Performance Contracting (ESPC) Project Summary

Ameresco Quantum developed and implemented an Energy Savings Performance Contract (ESPC) for Seattle Central Community College. This project provided upgrades that were centered on energy and resource conservation at multiple college facilities. The project produces over \$200,000 annually in energy and maintenance related savings.

In addition to building improvements and energy savings, there is a significant positive impact on the environment as a result of this project. The energy savings produced as a result of this project will directly reduce the amount of power produced by the Utility. Reductions in emissions include over 1,854,797 lbs., or 842 metric tons, of carbon dioxide (CO<sub>2</sub>) annually.

#### Project Description – Base Scope

This project replaced all the Variable Air Volume (VAV) terminal units throughout Phase I and Phase II of the Broadway Edison Building. This project also installed a dedicated gas fired boiler and domestic water heater for the Charles Mitchell Activity Center and Bookstore which decentralize this building from Seattle Steam, replaced 18 water source heat pumps at the Siegal Center, re-piped the existing Carrier chiller to dedicate chilled water to the Broadway Performance Hall, and replaced the existing single pane East skylights over the atrium in Phase 1 of the Broadway Edison Building.

Additionally, this project replaced the existing DMS Robert Shaw control system with a new Honeywell DDC and EMS, and incorporated occupancy and CO<sub>2</sub> demand ventilation controls for areas with sporadic occupancy. The complete controls upgrade included the Broadway Edison Building (Phase I and Phase II), Charles Mitchell Activity Center, Siegal Center, Erickson Theater, Fine Arts Building, and the Broadway Performance Hall.

Lighting upgrades included retrofit and replaced T-12, incandescent and HID (metal halide, high pressure sodium, mercury vapor) interior and exterior lighting with T-8, T-5, compact fluorescent, and LED technology, and implement occupancy sensors and lighting controls at multiple sites including: The Charles Mitchell Activity Center and Bookstore, The Siegal Center (Administrative Office), Parking Garage, International Student Center, and the SVI Building.

This project also implement water conservation upgrades at the Broadway Edison Building (Phase I and Phase II), Edison North, Charles Mitchell Activity Center and Bookstore, Broadway Performing Hall, Fine Arts, Erickson Theater, South Annex and Siegal Center. This measure installs water conservation devices (aerators on sinks, flush valves on urinals and toilets, or new fixtures) to save water and energy for water heating.



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## Energy Savings

Energy Savings associated with the project are as follows:

- Electrical Savings – Lighting 504,170 kWh and 1,150 kW
- Electrical Savings – HVAC 820,474 kWh and 20 kW
- Steam Savings – HVAC 4,553 lbs.
- Water Savings 1,423 CCF

## Project Funding

Project Funding came from 4 sources:

- Department of Commerce Grant \$2,058,915
  - Financed through the State Treasurer \$1,500,000
  - SCCC Funds \$1,000,000
  - Seattle City Light Utility Incentive \$177,297
- Total Project \$4,736,213 (including estimated sales tax)**

## Additional Scope

In addition to the base scope of work, the college had multiple funded project identified. The additional scope performed included:

- Broadway Edison atrium lighting upgrades.
- Repairs to the penthouse supply fan SF-2
- Broadway Edison water service upgrade
- Domestic water line replacement – Phase 1 and Phase 2
- Steam coil replacement BPH
- SVI Data center upgrades
- Cooling tower upgrades
- SVI exterior lighting
- Fine Arts stairwell pendant lights
- BPH stairwell and hallway lighting
- New steam to hot water converters
- Replace all pneumatic control valves with new electronic control valves

**The cost associated with the additional scope \$1,806,949 (including estimated sales tax)**

**Total Project cost with additional scope included \$6,543,162 (including estimated sales tax)**