

# Beacon Institute for Rivers and Estuaries Center for Environmental Innovation & Education (CEIE)

Beacon, NY, Dutchess County

## Background

Through the adaptive reuse of an abandoned industrial building and the addition of the contemporary annex, the site known as Building One has become a shining example of sensitivity to surroundings and commitment to efficiency, sustainability, and green building. The multi-use facility houses exhibition space, meeting and teaching rooms, offices for administrative staff, and mechanical equipment space.

Science Applications International Corporation (SAIC) was retained by NYSERDA to evaluate electric energy efficiency opportunities for the repurposing and new construction under the New York Energy Smart New Construction Program.

## Recommendations

SAIC provided analysis of building energy consumption with regard to both baseline and an as-designed model case, to insure the meeting of energy efficiency requirements and to identify possible energy efficiency design improvements, and identification of any measures for analysis.

Among the energy efficiency improvements implemented in the building were:

- High efficiency geothermal ground source heat pumps
- High efficiency windows
- Above code insulation
- High efficiency lighting
- Natural ventilation for cooling
- Solar collector for domestic hot water

## Incentives and Results

NYSERDA's incentive of \$27,755 helped The Center for Environmental Innovation and Education, Rivers and Estuaries Center defray a portion of the implementation cost to install the efficiency improvements. In total the investment could result in:

- Annual Energy savings of more than 20% (19,856) kWh
- Peak summer demand savings of 5 kW
- Energy cost savings exceeding \$1,500 annually

The Rivers and Estuaries Center is 30% above ASHRAE 90.1-1999.



***“Our collaboration with NYSERDA began early on in the project, and their technical assistance and support proved invaluable. The building is successful and the experience was enjoyable. NYSERDA was a great partner.”***

*-Regan Coover-Chichester*