SHOWCASE PROJECT: LOS ANGELES UNIFIED SCHOOL DISTRICT’S HELEN BERNSTEIN HIGH SCHOOL

SOLUTION OVERVIEW
The Helen Bernstein High School is a high performance-designed facility, incorporating sustainable and energy-efficient design and construction standards into its site, water, energy, materials, indoor environmental quality, and operations. The Los Angeles Unified School District (LAUSD) selected the facility to undergo an energy efficiency upgrade that is expected to result in a source energy savings of 28 percent and a cost savings of $137,000 annually.

LAUSD is the second largest school district in the country, with over 1,200 K-12 schools and centers within 720 square miles of LAUSD site boundaries, serving approximately 640,000 students.

In 2003, LAUSD’s Board of Education passed a resolution entitled “Sustainability and the Design and Construction of High Performance Schools” directing that the design of all new schools and modernization projects incorporate and meet green building criteria from the Collaborative for High Performance Schools (CHPS).

Opening in 2008, Bernstein High School is one of over 120 LAUSD schools certified as part of CHPS. The facility serves over 700 students and staff across 339,600 square feet and includes classrooms, library, gymnasium, office, and auditorium building. The campus also provides an extensive open area with athletic fields and swimming pool facilities.

SECTOR TYPE
Education

LOCATION
Hollywood, California

PROJECT SIZE
339,600

FINANCIAL OVERVIEW
$1.94 Million

SOLUTIONS
Bernstein was identified as one of the top five energy-consuming facilities in the District and scheduled to undergo a renovation including interior and exterior lighting upgrades, HVAC controls

https://betterbuildingssolutioncenter.energy.gov/showcase-projects/los-angeles-unified-school-districts-heLEN-berNstein-high-school
For more information, visit https://betterbuildingssolutioncenter.energy.gov
and energy management system upgrade, new pool pump variable frequency drive, and new high-
efficiency transformer replacements.

The following energy reduction solutions will contribute to the school’s targeted source energy use intensity reduction of 28 percent:

<table>
<thead>
<tr>
<th>Savings Measure</th>
<th>Cost</th>
<th>Annual Expected Savings*</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Lighting Retrofits</td>
<td>$470,000</td>
<td>$45,000</td>
<td>Retrofit the T8 32W interior fluorescent light fixtures with new LED and fluorescent technologies</td>
</tr>
<tr>
<td>Exterior Lighting Upgrades</td>
<td>$146,000</td>
<td>$25,000</td>
<td>Replace existing exterior light fixtures with new LED and fluorescent technologies</td>
</tr>
<tr>
<td>Upgrade HVAC Controls and Energy Management System</td>
<td>$995,000</td>
<td>$35,000</td>
<td>Upgrade Direct Digital Controls and Energy Management System and implement new control strategies.</td>
</tr>
<tr>
<td>Pool Pump Variable Frequency Drive Upgrade</td>
<td>$53,000</td>
<td>$10,000</td>
<td>Install new Variable Frequency Drive to existing pool pump to adjust flow of gallons per minute to meet minimum health department requirements.</td>
</tr>
<tr>
<td>High-Efficiency Transformer Replacements</td>
<td>$275,000</td>
<td>$22,000</td>
<td>Replace existing transformers with high-efficiency transformers to minimize energy loss when electrical loads are low, reduce heat loads, and increase overall system reliability.</td>
</tr>
</tbody>
</table>

*Note: The annual energy costs are calculated from baseline utility costs and do not account for the current utility rate.

OTHER BENEFITS

In addition to the energy efficiency improvements, LAUSD also expects as increase in productivity and a decrease in absenteeism as a result of the thermal improvements which create a more comfortable learning and teaching environment.

The high-performance features of the school include resource conservation, improved indoor air quality, and streamlined building operations and maintenance. The lighting and electrical transformer upgrades are expected to reduce maintenance costs and save time.


For more information, visit https://betterbuildingssolutioncenter.energy.gov
### Annual Energy Use
(Source EUI)

<table>
<thead>
<tr>
<th>Baseline (2016)</th>
<th>123 kBtu/sq.ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual (2018)</td>
<td>Coming Soon</td>
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</tbody>
</table>

### Energy Savings
28%

### Annual Energy Cost

<table>
<thead>
<tr>
<th>Baseline (2016)</th>
<th>$489,000</th>
</tr>
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<tr>
<td>Actual (2018)</td>
<td>Coming Soon</td>
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</table>

### Cost Savings
$137,000

Helen Bernstein High School