



# Wells High School

Wells, ME

## GENERAL INFORMATION

**Location:** 200 Sanford Road, Wells, ME 04090

**Project Cost:** \$26,850,000

**Scope:** 127,900 ft<sup>2</sup>

**Cost Per Square Foot:** \$207/ft<sup>2</sup>

**Funding/Grant:** \$189,232.50 in utility incentives received. 100% funded through local sources

**Enrollment:** 450 students

**Architect:** Lavallee Brensinger Architects

**Engineers:** Becker Structural Engineering, Allied MEP-FP Engineering, Stantec Civil Engineering

**Estimated Energy Cost Savings:** \$86,899

**EUI (kBtu/ft<sup>2</sup>):** 37.1

## PROJECT OVERVIEW

The Wells-Ogunquit Community School District teamed with Lavallee Brensinger Architects to rejuvenate its high school's learning environment and create a sense of place within a high performance school. The District pre-determined an amount of funding and a decision to pursue an addition and renovation solution (rather than a new school) with the intended result of creating a "whole new school" environment.

Educationally, the student-driven solution creates a learning environment surrounding a combined student and learning commons within the heart of the school. The STEM and STEAM organization allows educational flexibility to support proficiency-based advancement and individual learning plans. Maintenance-friendly finish materials, ergonomic furniture, filtered indoor air, sensor-controlled lighting, acoustic treatments, and air conditioning supports health and comfort. Learning spaces face north and north-west to maximize daylighting and minimize glare. Flooring, paint, and ceiling tiles were carefully selected based on light reflectance values within the daylighting zones to daylight over 90 percent of regularly occupied spaces.

Wells HS is recognized by Efficiency Maine as the first publicly-funded Maine Advanced Building (MAB) school. The incentive program utilizes the New Building Institute's New Construction Guide to High Performance Buildings. An 82,700 sqft addition of new learning spaces connected 40,000 sqft of renovated athletic and performing arts space in a fully air-conditioned solution designed to perform as a "whole new school".

Operationally, the first year resulted in an EUI of 37.1 kBtu/ft<sup>2</sup>. Envelope and MEP commissioning calibrated systems via the building automation system (BAS) and metering and monitoring records performance. The low-temperature hydronic system, comprised of distributed fan-coil and variable air volume devices, utilizes dedicated CO<sub>2</sub>-controlled outdoor air systems (DOAS) and radiant slab heat to reduce energy. A solar hot water array and condensing boilers reduce natural gas loads.



## SUSTAINABLE DESIGN ELEMENTS

### Energy efficiency

- LED, HP T8, and T5 lighting controlled with daylighting and occupant sensors
- Energy recovery within dedicated outdoor air systems
- Enhanced wall and roof insulation with commissioned air barrier
- Solar hot water system to preheat domestic hot water
- Metering and monitoring terminal unit and filter performance

### Indoor environmental quality

- Low-to-zero VOC paints and mastics
- MERV 13 air filters at all units – contractor for semi-annual replacement
- Operable windows

### Daylighting

- Over 90% of regularly occupied spaces
- Finishes with high light reflectance value
- Solar tubes and skylights for internal spaces

### Acoustics

- Recycled, sound absorbing, rubber floors in the student commons
- Low volume fan coils and high performing ceiling tiles in learning spaces
- Sound absorbing wall panels in common areas

### Onsite renewable energy

- Solar hot water systems
- Geothermal and photovoltaic ready systems

### Water efficiency

- Over 50% savings from low-flow fixtures.
- Well water for field irrigation

### Materials

- Reuse of 40,000 sqft of existing building stock
- Locally sourced materials
- Maintenance-friendly; eliminating stripping, waxing and chemical cleaning.
- Fiberglass window systems

### Site selection

- School oriented to maximize daylighting and reduce glare
- Within 2 miles of fire, police, and hospital facilities

### Occupant behavior (student/staff engagement program)

- Student, educator, and community visioning and planning process
- Student-driven design solution

This case study was prepared by NEEP. For more information about High Performance Schools, please contact **John Balfe**, NEEP's Senior Buildings & Communities Solutions Associate at [jbalf@neep.org](mailto:jbalf@neep.org) or 781-860-9177 x109.