Demystifying Net Zero Virtual Event
Featured School Projects' Description

Douglas and Gates Elementary School

Acton Boxborough Regional School District, MA

The new Douglas & Gates Elementary School will provide a home for three distinct school programs in the Acton-Boxborough Regional School District from PK-6th grade. The project sets an example by being designed to be triple net zero—emissions, water, and waste. The building energy use has an EUI of 23 which is largely achieved by a ground source heat pump HVAC system. That is balanced by on-site renewable solar energy generation and battery storage. Consistent with the district school choice philosophy, every elementary school has its own character and focus. During the planning and educational visioning phase, Arrowstreet focused on how to provide equity among the schools coupled with maximizing shared spaces such as break-out spaces, appropriately sized cafeteria, gym, STEAM labs; and support for Special Education Services

Josiah Quincy Upper School

Boston, MA

Set to open in Fall of 2024, the Josiah Quincy Upper School is a pilot school within the Boston public school system serving approximately 650 students from grades 6-12. The new school presents an opportunity for innovative design solutions to maximize learning space on a tight, urban site and create a longstanding resource for the surrounding community. To achieve its target of LEED Silver certification, the new facility utilizes creative space planning by locating the majority of academic classrooms along the southern façade to maximize natural light and introduces a rooftop outdoor educational space to ensure students have access to great air quality and are connected to nature.

Dr. Martin Luther King, Jr. Elementary School

Cambridge, MA

The project was the first for the City of Cambridge to request that Net Zero Energy (on site) be a target or "reach" goal. While the project did not achieve NZE on the very densely occupied 3.4 acre site, the project served as a working experiment to understand the issues and viability of NZE and contributed momentum to the formation of the Net Zero Task Force and ultimately the Getting to Zero Action Plan. The project includes 400 students in the Dr. Martin Luther King, Jr. School, 300 students in the Putnam Avenue Upper School, 40 children in DHS's Dr. Martin Luther King, Jr. Preschool and dedicated classrooms for 100 students in two DHS run after-school programs (840 total student design capacity) in 168,000 square feet of habitable space + 18,000 square feet for 69 underground parking spaces. After 3-years of commissioning it had an actual EUI of 22 (w/o PV's) and achieved LEED v3 for Schools Platinum Certification.

King Open/Cambridge Street Upper Schools and Community Complex

Cambridge, MA

The King Open and Cambridge Street Upper Schools & Community Complex will be among the city's first Net-Zero Emissions projects supporting the Cambridge Climate Action Plan. This all electric building boasts 190 geothermal wells and over 74,000 SF of PV array. It has been designed to provide the services of a large-scale civic building while fitting into its residential neighborhood. The building is surrounded by parks and open space to welcome all residents. The 273,000 sf complex will house two schools, the Valente Branch Library, the City preschool, community and after school programs and the two new community pools.

John M. Tobin Montessori School and Vassal Lane Education Campus

Cambridge, MA

Evaluation and planning of new 298,000 gsf building and 9 acre site to provide new facilities for a Montessori school, upper school, special start and department of human services programs preschool, and after school programs. In addition, the project aims to mitigate street flooding in the neighborhood with the construction of a 1.5 million gallon underground storm water tank on-site. The project is being designed as a Net Zero Emissions Facility.

Dale Street Elementary School

Medfield, MA

Arrowstreet is designing and programming a new elementary school to support the specific educational and socio-emotional needs of its grade 4-5 learners while reinforcing the school's core values of respect, compassion, collaboration, and continuous growth. The school provides educational spaces that inspire discovery, independent work, equity, and respect for one another. The design team lead a net zero energy feasibility study for this project the results of which showed that a net zero building would provide a cashflow positive situation creating savings for the town from day one.

Hosmer Elementary School

Watertown, MA

The new 142,500sf Hosmer Elementary School, which supports 590 students in grades K-5 as well as 200 Pre-Kindergarten and Preschool students, allowed Watertown to achieve numerous educational, environmental, community, and neighborhood goals including LEED Gold standards and Net-Zero energy usage. Two academic wings with unconventional corridors- connected by a bridge, converge to form the learning commons, composed of a layering of educational spaces that spill into an open-air courtyard through a folding glass wall. Exposed structural elements are used to define collaborative and flexible learning spaces throughout, while transparency and sustainability graphics provide continued connections to the outdoors. Additional "flex classrooms" are incorporated into the educational environment to address the future evolution of specialized science, language, and lab space necessary to accommodate an evolving and forward-thinking educational program.

Cunniff Elementary School

Watertown, MA

The new 82,400sf Cunniff Elementary School, which supports 385 students in grades K-5, is a compact three-story building footprint offering a large roof platform for photovoltaics. The new school will meet LEED Gold standards and Net-Zero energy usage and promotes an exterior building envelope utilizing a combination of metal and recycled wood/plastic components to create a "green" exterior building shell, which can be easily repaired/replaced on a 40- to 50-year cycle and can be fully recyclable in the future. The interior educational environment eliminates traditional corridors by creating a central zone of collaborative student study, work, and exhibit space, around which all classrooms can be organized. Specialized two-story volumes like the art room, learning commons, and media center are organized adjacent to open stairways and exterior walls to allow transparency and daylight to flow through all volumes simultaneously.

Annie E. Fales Elementary School

Westborough, MA

The new Annie E. Fales Elementary School, a K-3 grade school in Westborough, Massachusetts is projected to achieve net-positive energy use when it opens in Fall of 2021. Westborough's commitment to renewable energy significantly shaped the design of the new school, which is the first facility to support the Town's goal to be carbon-emissions free by 2035. The innovative facility achieves this ambitious target by reducing energy use and producing renewable energy on-site through a rooftop solar array capable of generating 10% more energy than required for the school itself. The light-filled interiors, warm natural materials, and thoughtful integration into the school's surrounding establishes Fales as a vibrant, year-round learning environment.