

# King Open/Cambridge Street Upper Schools & Community Complex

AN INSPIRING LEARNING ENVIRONMENT /  
A WHOLE-BLOCK CIVIC AMENITY /  
NET ZERO, SUSTAINABLE, AND RESILIENT /







*“From an equity perspective, every[one] should be able to get what they need — and the building is designed to do just that...[it] allows us to truly live out our values and commitment to social justice-and our responsibility to our community and our environment.”*

—DARRELL WILLIAMS, PRINCIPAL, KING OPEN



# Executive Summary

The King Open/Cambridge Street Upper Schools & Community Complex is a groundbreaking project that integrates two schools, social services, and family programs to create a supportive environment and valuable resource for the entire community. It provides a sustainable and healthy learning space while restoring open space that was once lost to Cambridge.

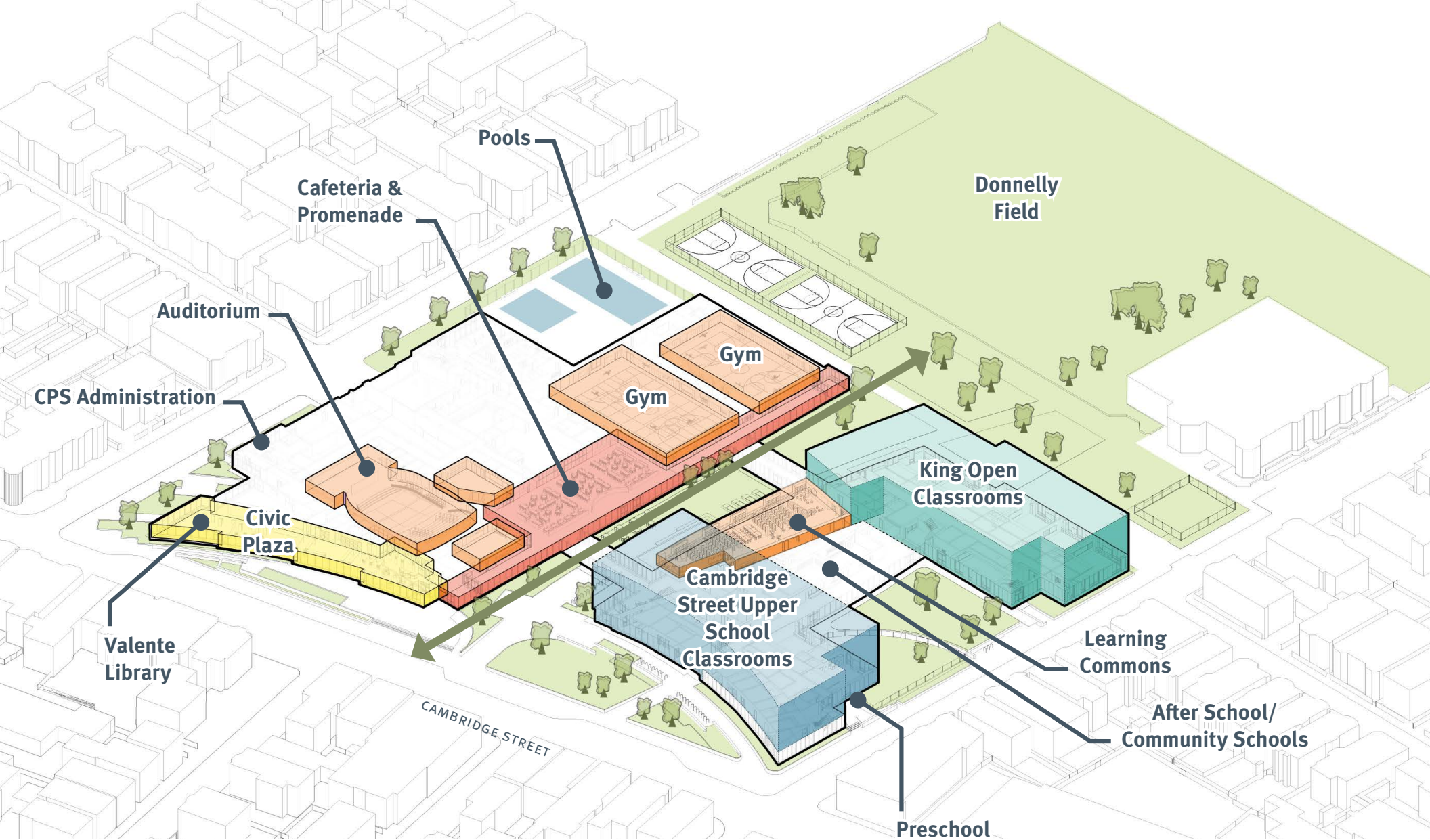
With a focus on social equity and community services, the King Open/Cambridge Street Upper School & Community Complex sets a new standard for integrated school design and high-performing buildings. Originally founded in 1975 to address racial imbalance, the King Open School has evolved to prioritize individuality and choice in education.

The project expands on this legacy, incorporating a 21st-century learning lab, community library, and social services. It encompasses various grade levels, including preschool and afterschool programs, and provides district administration offices, a public library, a public pool, open space, and an underground parking garage. By surrounding students with community support, the complex aims to shape the lives of future citizens and foster an inclusive and diverse environment that values the natural world. Above all, it offers a safe, comfortable, and inspiring setting for learning.

The building is highly efficient, with a geothermal system and a photovoltaic array that generates 60% of on-site power. It is the first Net Zero Emissions and LEED v4 Platinum school in Massachusetts.







## A FULLY INTEGRATED COMMUNITY

The new facility combines two independent schools with social services and community resource programs to support students, families and the entire community. The two-building parti allows the Community Wing to remain open

to the public after school and weekends, integrating the schools into the neighborhood and creating a shared community of active, engaged, and life-long learners.



# Scope of Work and Budget

The project sets a new standard for school design and high-performing buildings through the creation of a 21st-century learning lab, a community library, and social services.

The building includes the Grades K-5 elementary school, Grades 6-8 upper school, district-wide autism spectrum and special education program, preschool, afterschool and human services programs, district administration offices, public library, public pool, an acre of open space, and an underground parking garage.

The facility aspires to be more than just a building; it surrounds students with community support to help shape future citizens' lives. It reflects an outlook of respect for an inclusive community celebrating diversity and the importance of the natural environment. Above all, it provides a safe, comfortable, and inspiring environment to support the mind and body in the pursuit of learning.

Owner: City of Cambridge  
Cambridge Public Schools

Site Area: 258,030 sf, 5.9 acres

Facility Size: 230,000 SF

Students: 975

Occupancy Date: August 2019

Construction Cost: \$130,000,000







## NEIGHBORHOOD CONTEXT

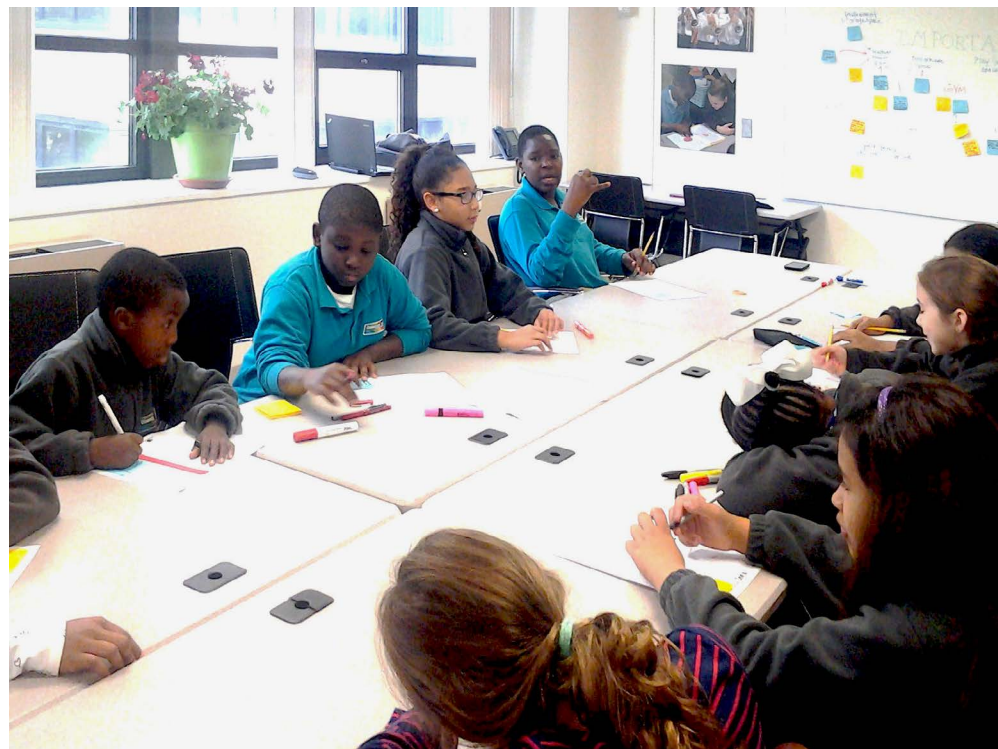
The project is located in a diverse, densely populated neighborhood in Cambridge MA. The site was originally a public park built in 1895 to provide open space and recreational opportunities for the growing urban population. During the 1960's, the King Open School was built along Cambridge Street, closing off the park from the neighborhood. In addition to improving the schools, the community's goal was to re-establish a connection from Cambridge Street to the park and restore much needed green space to the neighborhood.







Original King Open School founded in 1975



## A SCHOOL WITH A STRONG HERITAGE

The King Open School was founded in 1975 as part of the federal “Magnet Schools” experiment to bring children from all over the city to end racial imbalance. It was created with a strong commitment to racially and economically integrated public education based on choice in programs and educational styles. Every child is seen as an individual with their own strengths and needs, and every teacher can define the “openness” or quality of the classroom to encourage and respect differences in personality and learning styles.

The mission of the King Open School is to build an inclusive learning community that supports academic achievement and addresses learning gaps through culturally responsive learning experiences in the monolingual, dual language and specialized classrooms. The principles of social justice guide the school’s work. To advance diversity, equality, and fairness, they confront their varying perspectives of social justice to allow these principles to guide decisions, practices, curriculum and relationships.

Toward this mission, the school uses the knowledge and expertise of staff, students, and families to create curriculum informed by the Massachusetts State Standards. They co-plan differentiated instruction. They include in-depth themes and projects that integrate subject areas and culminate in community events. They strive for the social and emotional growth of each student. Above all, they seek to empower students as active change agents in their communities while developing a lifelong love of learning.

Goals for the new school:

- Students, parents and visitors should feel welcome throughout the school
- Social justice and respect for diversity should permeate the building
- Support the city’s Innovative Agenda to raise student achievement, eliminate achievement gaps and develop 21st century learning skills
- Learning spaces should be organized to create camaraderie and collaboration while supporting individual learning needs



# School and Community Engagement

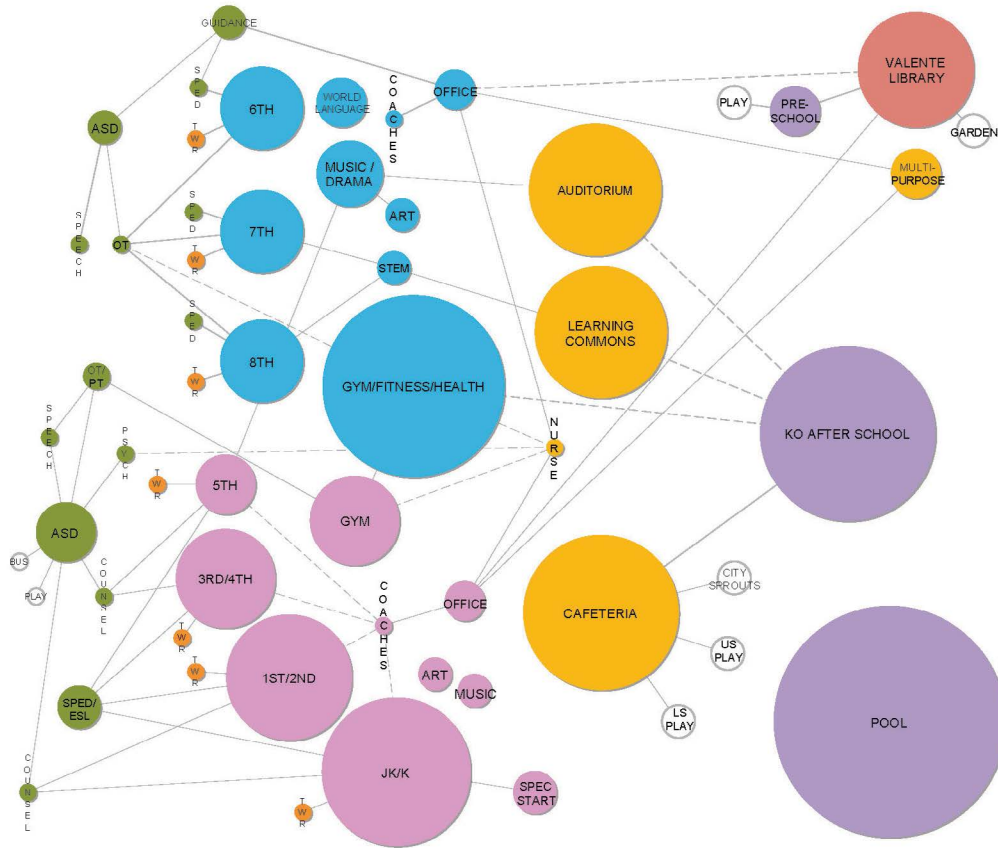
The community was engaged in the design process continuously from feasibility through construction. The project included feedback from over 30 stakeholder groups, including faculty and staff of the school, curriculum specialists, district administration leaders, library, and other programs in the building, business groups, public safety, neighbors, and the entire city community.

Open visioning charrettes were held at school events, community picnics, senior centers, and sporting events to reach the greatest spectrum of the population. These groups included community members, businesses, faculty, and students who all directly influenced the types of programs and spaces within the final building and site. Physical models, diagrams, renderings, and virtual reality were presented for hands-on discussions.

Community feedback helped define the project's programming. The project's fundamental design intent was to provide a safe, inclusive, and equitable environment for young people, their families, the surrounding neighborhood and the entire community.







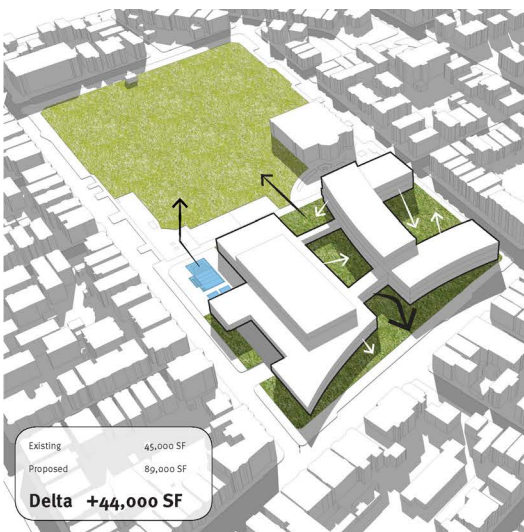
## PLANNING FOR INTEGRATED PROGRAMS

Integrating the number of activities into the building was particularly challenging given the functional needs of each and the circulation requirements for safety and security.

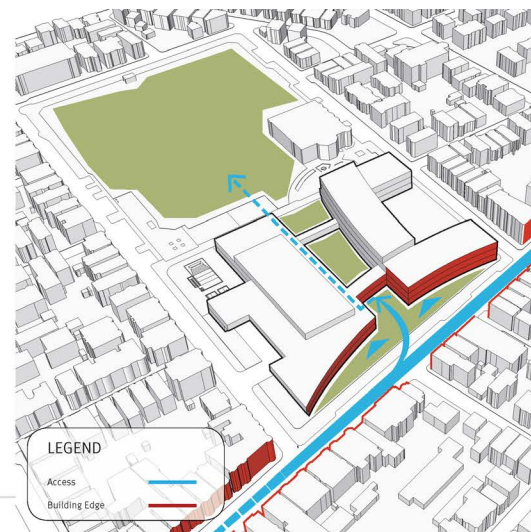
The building was organized into separate wings to reduce the overall scale of the project, connect Cambridge Street to the park, and allow the community to use the building after hours and weekends.

To maintain equity, each program element has its own, unique entrance, including District Administration offices and the Gold Star Mothers swimming pool.

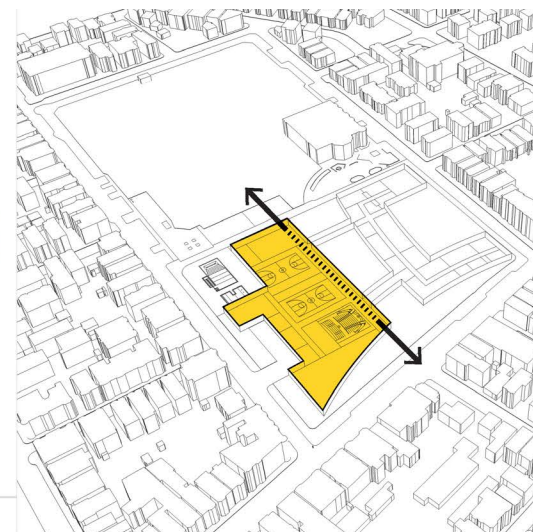
A civic plaza along Cambridge Street unites the program elements and creates a warm, welcoming entrance for the schools, library and other activities.



Open Space Diagram



Urban Design Diagram



Community Access Diagram





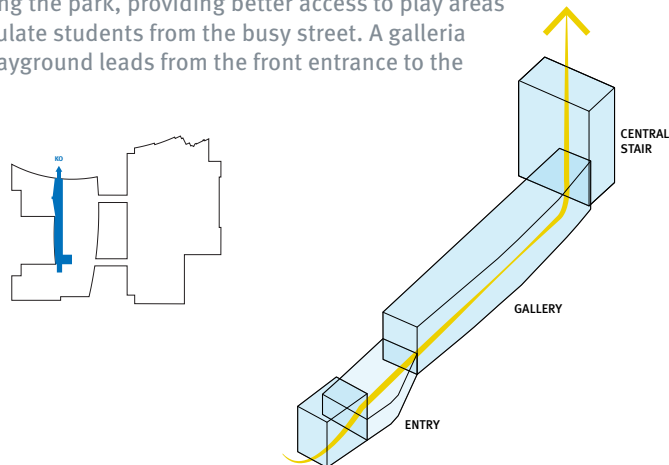
## A CIVIC PRESENCE FOR EACH SCHOOL

To maintain equity between the two schools, each has its own entrance on Cambridge Street and unique circulation path to their classrooms.

The civic plaza and gentle arch of the facade unite both schools with the adjacent library, unifying the entire complex.

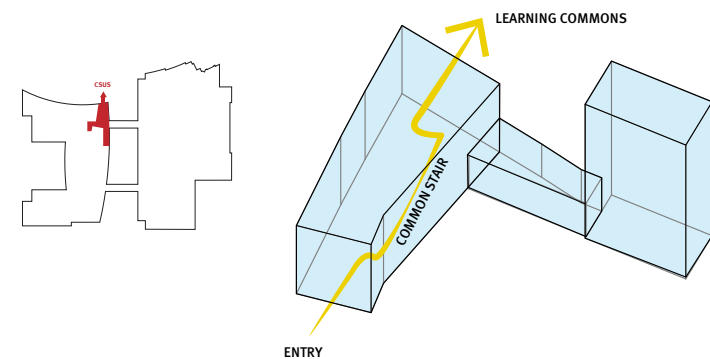
## KO ARRIVAL SEQUENCE: IN, THROUGH & UP

The elementary school classrooms are located at the rear of the building overlooking the park, providing better access to play areas and helping to insulate students from the busy street. A galleria overlooking the playground leads from the front entrance to the classrooms.



## CSUS ARRIVAL SEQUENCE: IN & UP

The middle school entrance leads directly to the STEAM classrooms overlooking the outdoor learning courtyard and the library upstairs.







## COMMUNITY RESOURCE

The City's goal was to create a community resource for the residents of this densely populated urban neighborhood. The result is a new building type combining schools with community programs in a single complex, including outdoor resources such as a reading garden, bocce court, five playgrounds, swimming pool, civic plaza, and interior spaces like a public library, auditorium, cafeteria, and gymnasiums.

The massing allows the community spaces to be available after school hours, creating a true community center for the entire city. The two building parti allows the community wing to remain open to the public while securing the school after hours. It provides a host of gathering and active spaces to serve the neighborhood's desire to be a community of active, engaged, and life long learners.







## COMMUNITY GOALS

The building's varied program means many things to many people—a school, daycare, public library, pools, school district administration, and community center. Investing in a project that serves so broad a range of the community's needs reflects respect for equity, diversity, and inclusion. The branch library and pools are prominently placed to send a strong signal to all to engage in their community resource and claim it as their own.



# Educational Environment Design

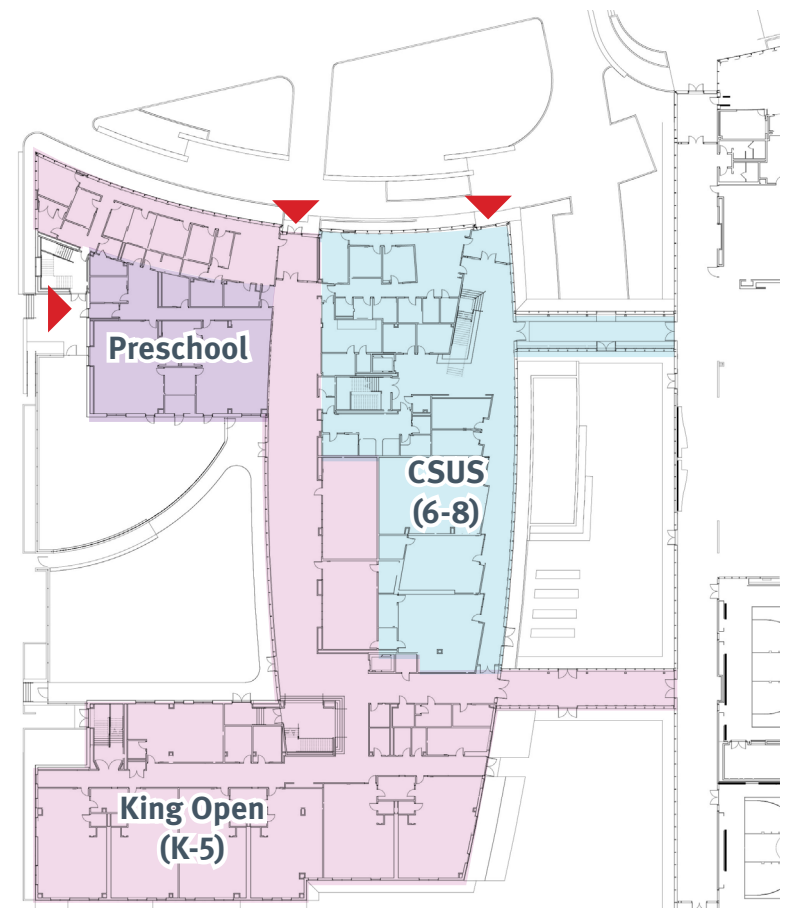


## A NEW STANDARD FOR LEARNING

This project is part of the City of Cambridge's Innovation Agenda, an ambitious plan to propel Cambridge Public Schools in the 21st century and prepare students for life in a world we cannot fully imagine today. Through a robust planning process and thoughtful design, the complex supports each school's current teaching

pedagogy while allowing for future flexibility. Each grade level is organized into neighborhoods with large classrooms, shared project-based learning breakout rooms, open and flexible teaming areas, student services, and faculty workrooms, all intended to support student learning needs.





LEVEL 1

## TWO SCHOOLS WITH UNIQUE IDENTITIES

Leading from the front entrance to the elementary school classrooms overlooking the park at the rear of the building, the expansive Gallery space creates a heart for the school and the community. The gallery creates a welcoming place for students and their families overlooking the playground. The adjoining art and music rooms activate the space with exhibits and performances to extend creativity beyond the traditional classroom walls and encourage student engagement.







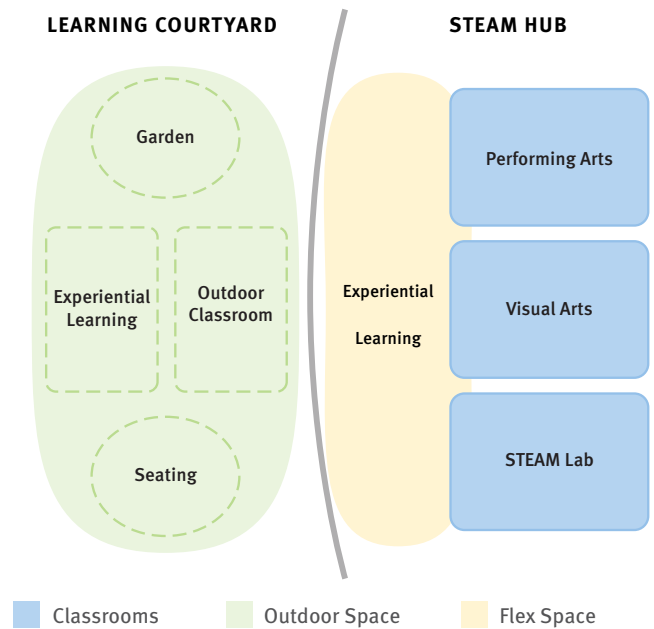
Cambridge Street Upper School entry & STEAM hub.

## STEAM ON DISPLAY

The Upper School (grades 6-8) program highlights science and technology to foster independent learning and student engagement. A Maker Space, Visual and Performing Arts classrooms are located along a wide hallway fronting the courtyard to create a STEAM hub at the entrance lobby, putting project-based learning and teamwork on display for students and the entire community.



The wide hallway allows for experiential learning outside the classroom walls, engaging the STEAM hub with the Learning Courtyard beyond.

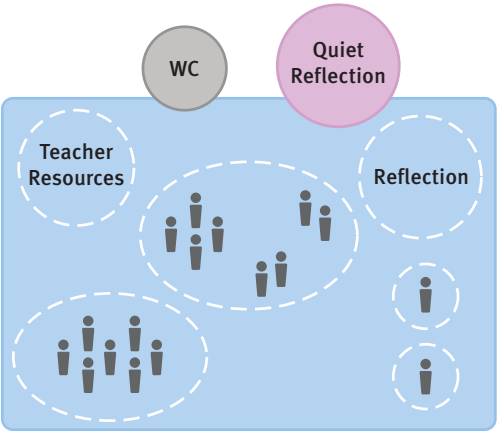




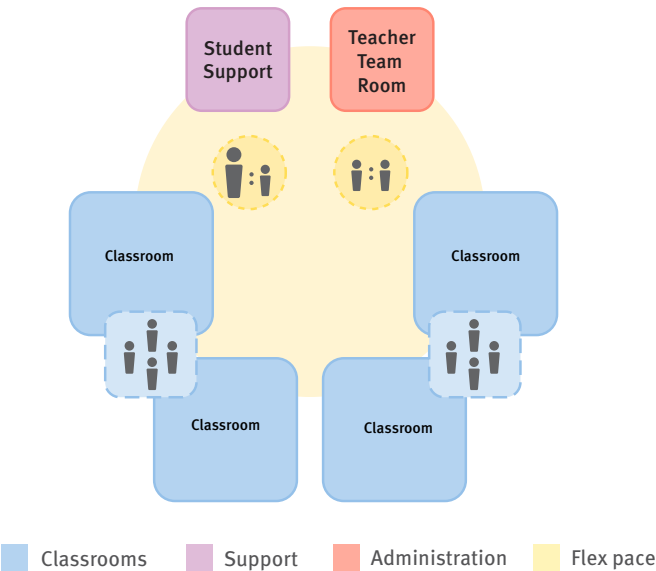
LEARNING NEIGHBORHOODS

Grade level neighborhoods are organized with classrooms, project-based learning breakout rooms, open flexible teaming areas, student services and faculty work rooms to provide student and educator support and create a sense of belonging within the larger school.

AUTISM SPECTRUM DISORDER (ASD)  
CLASSROOM



CLASSROOM NEIGHBORHOOD







## LEARNING SPACES

Learning spaces are sized to enable hands-on exploration while spatial relationships between classrooms support collaborative, interdisciplinary teaching. Transitions between areas allow for student engagement and achievement beyond the traditional classroom. And the shared Learning Commons allows students to proceed at their own pace, de-emphasizing reading levels to encourage love of reading.





# Results of the Process & Project



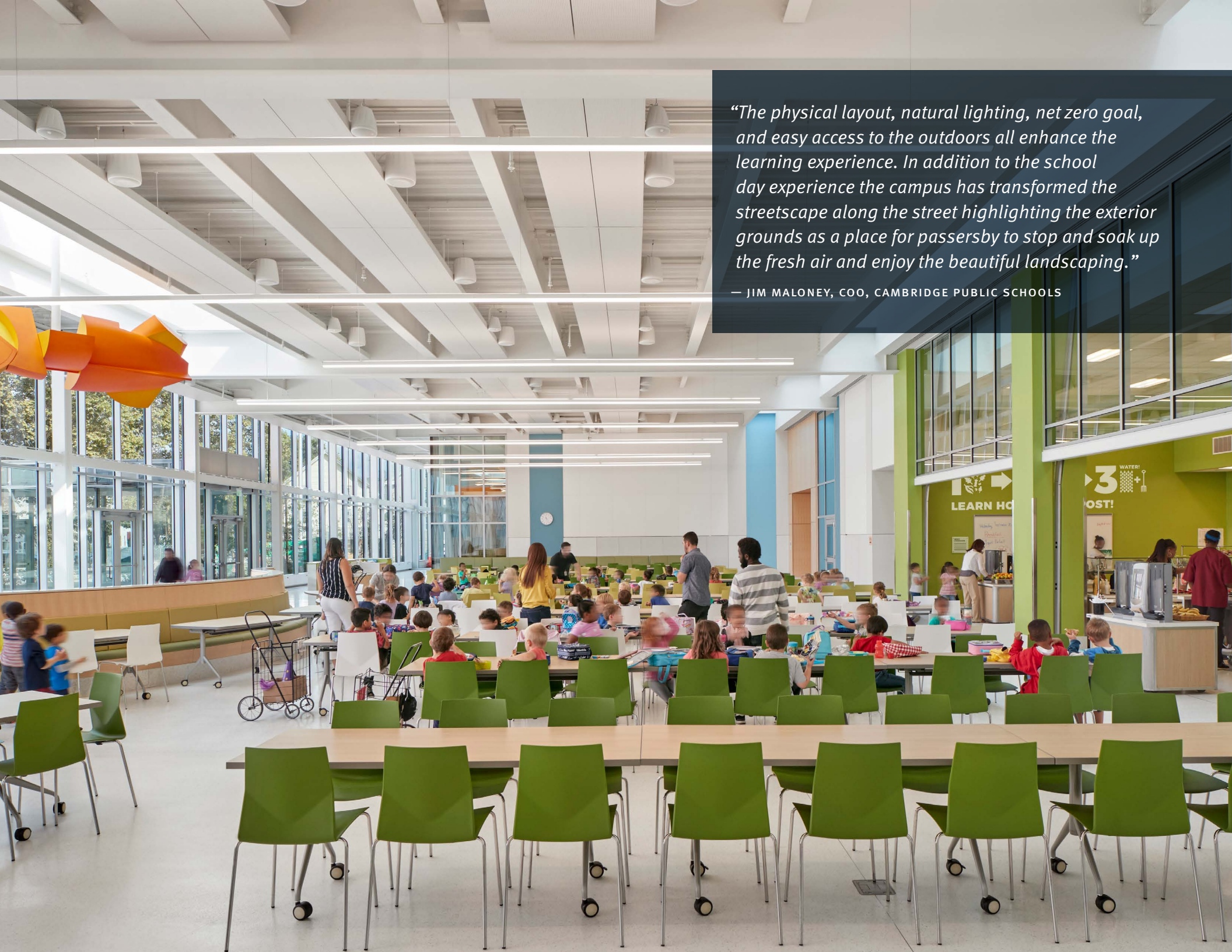
This facility aspires to surround students with community support to help shape the lives of future citizens. This evolving approach to education maintains a school's traditional role as the center of the community while offering more substantial human services support, allowing students to grow and excel with strong academic and emotional learning support.

Cambridge's ambitious Innovation Agenda and STEAM program is at the core of the curriculum. To support this goal, science and STEAM rooms are prominently located to highlight science learning. The wide STEAM corridor along the Learning Courtyard extends the front entry lobby towards the rear of the building, allowing for learning opportunities beyond the classroom which energize the entire

building. Project-based learning spaces provide display areas for STEAM projects and educational signage that explains environmental and sustainable concepts, such as solar energy and water recycling, to encourage student learning and engagement.

The cafeteria is larger, more welcoming, and centrally located to encourage healthy eating and minimize distinctions between students on free lunch programs. Upper and lower school circulation are separate so that older students do not overwhelm younger students. Cultural identity is celebrated through project work and displays. And the schools also boast the district's first gender-neutral bathrooms.





*"The physical layout, natural lighting, net zero goal, and easy access to the outdoors all enhance the learning experience. In addition to the school day experience the campus has transformed the streetscape along the street highlighting the exterior grounds as a place for passersby to stop and soak up the fresh air and enjoy the beautiful landscaping."*

— JIM MALONEY, COO, CAMBRIDGE PUBLIC SCHOOLS



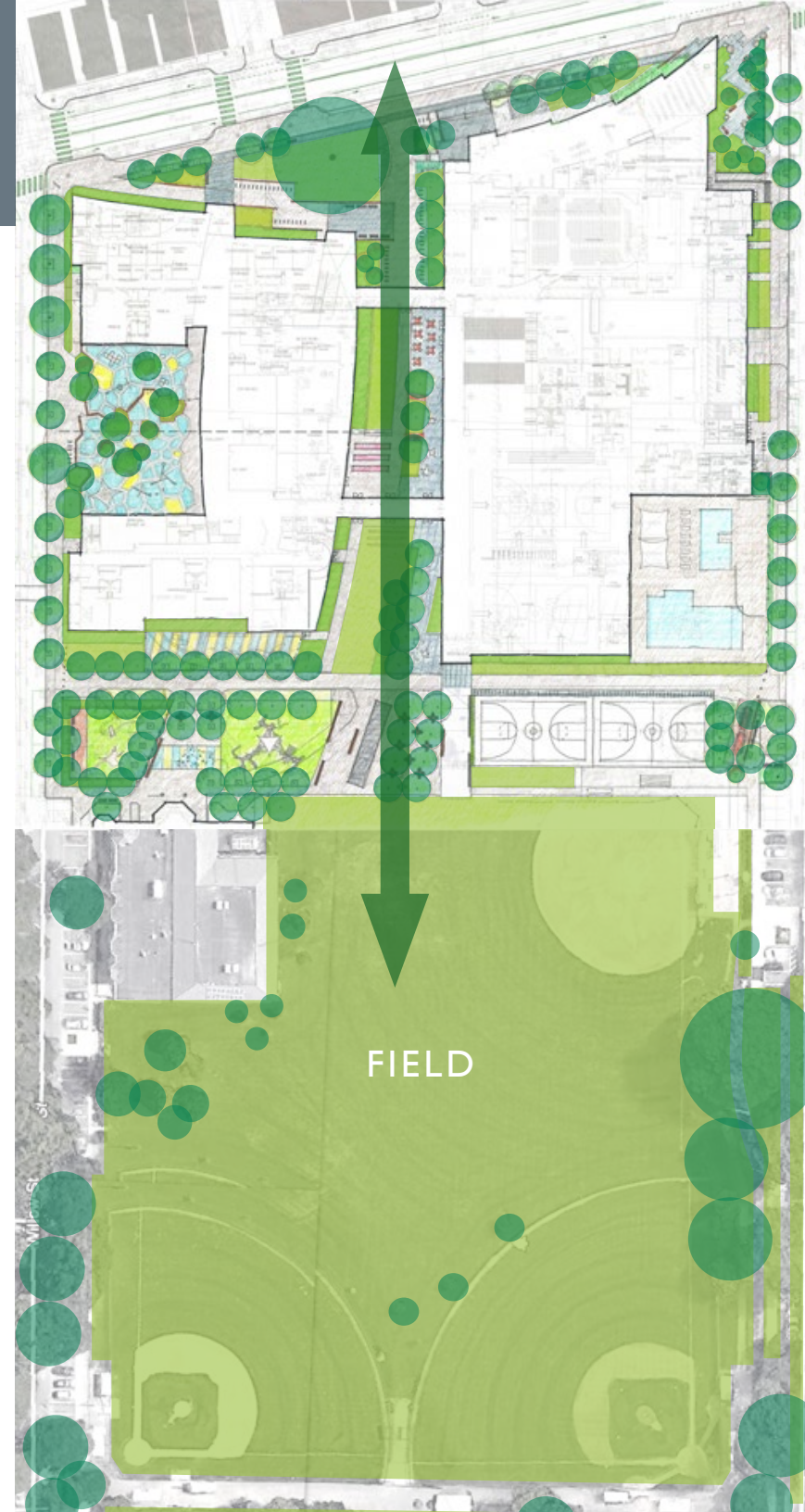
# Physical Environment Design



## RECONNECTING COMMUNITY TO GREEN SPACE

The project integrates natural landscaping with the schools' functional needs to benefit the tight urban neighborhood while enhancing the natural site features. Each side of the building creates a unique natural environment that improves the streetscape and creates new public spaces.

The project addresses economic inequality and financial vulnerability by providing a resource to the community during heat waves expected to increase in the future. The building offers access to cooling resources with two swimming pools, splash pad, shade tree areas, an air-conditioned library, and other community use spaces during high heat events.








## A WHOLE-BLOCK CIVIC AMENITY

**CIVIC PLAZA:** Gentle arcs of the building facades create a civic plaza and welcoming green space for students and residents. The plaza serves as school drop off/pick up, a place to gather and play bocce, and quiet space to read.

**MAXIMIZING OPEN SPACE:** By locating a 105-space garage below grade, the City gained almost an acre of additional green space. A series of active, learning, and contemplative spaces surround the building.



A photograph of a modern library building at dusk. The building features a large, multi-story glass facade that reveals the interior, which is brightly lit with warm yellow light. The roof is a prominent feature, made of light-colored wood and illuminated from within, creating a glowing effect. The building is situated on a street corner, with a sidewalk, a few small trees, and a street lamp in the foreground. The sky is a deep blue.

*“[The Citizens] are proud of the space, size, accessibility, and welcoming nature...a great example of the City’s commitment to enhancing the experience of residents when visiting our libraries.”*

— SUSAN FLANNERY, FORMER DIRECTOR OF LIBRARIES



# Sustainability and Wellness

The building excels in energy efficiency, wellness, and equitable communities. It achieves Net Zero Emissions, relying on renewable energy sources and minimizing energy demand. The building's systems include ground source heat pumps and displacement ventilation that prioritize thermal comfort, acoustics, and air quality. Energy efficiency features include insulation, daylight controls, LED lighting, and renewable energy generation through photovoltaic panels and solar thermal systems. User engagement strategies were implemented to encourage energy-conscious behavior, such as shared faculty workrooms instead of individual appliances in classrooms.

The complex prioritizes a safe, inclusive, and equitable environment for the community, offering a variety of resources ranging from job skills and language classes to community theater, within an underserved area of the city. Students and faculty spend a lot of time in school, so they deserve a healthy environment to learn and teach.

The design supports wellness and childhood development, acknowledging the impact of indoor environments on learning. Materials were carefully selected for their health impact, and biophilic design, thermal and acoustical comfort, daylighting, and movement were considered in the interior design to connect with nature and support well-being.

The complex serves as a learning lab for sustainability, with the goal of being the first Net Zero Emissions school in Massachusetts. The project achieves a balance between openness, light-filled spaces, and energy efficiency, engaging users through various interactive features and art installations.

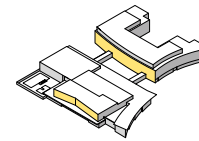




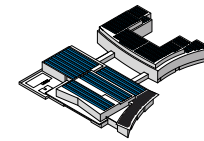


## NET ZERO, SUSTAINABLE, AND RESILIENT

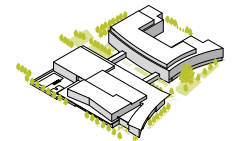
The complex is designed to perform at an ultra-low energy use intensity (EUI) even with heavy daily and year-round use. This is achieved through planning and user engagement strategies in addition to building and energy efficiency systems.



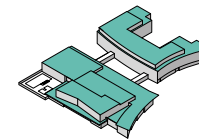
**FACADE-MOUNTED  
PV**



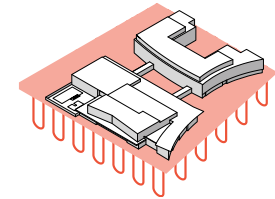
**ROOF-MOUNTED  
PV**



**INCREASED  
VEGETATION  
& NATIVE PLANTS**



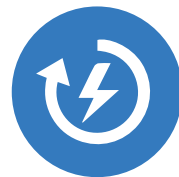
**RAINWATER  
HARVESTING**



**GEOHERMAL  
HEATING &  
COOLING**



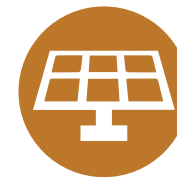
**25**  
pEUI



**72%**  
energy reduction over  
Architecture 2030 baseline



**190**  
geothermal wells

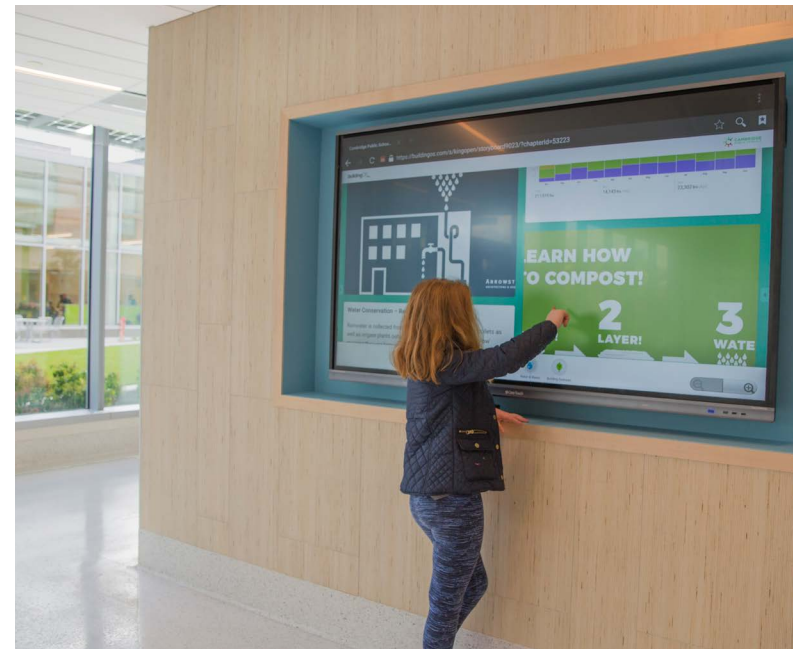
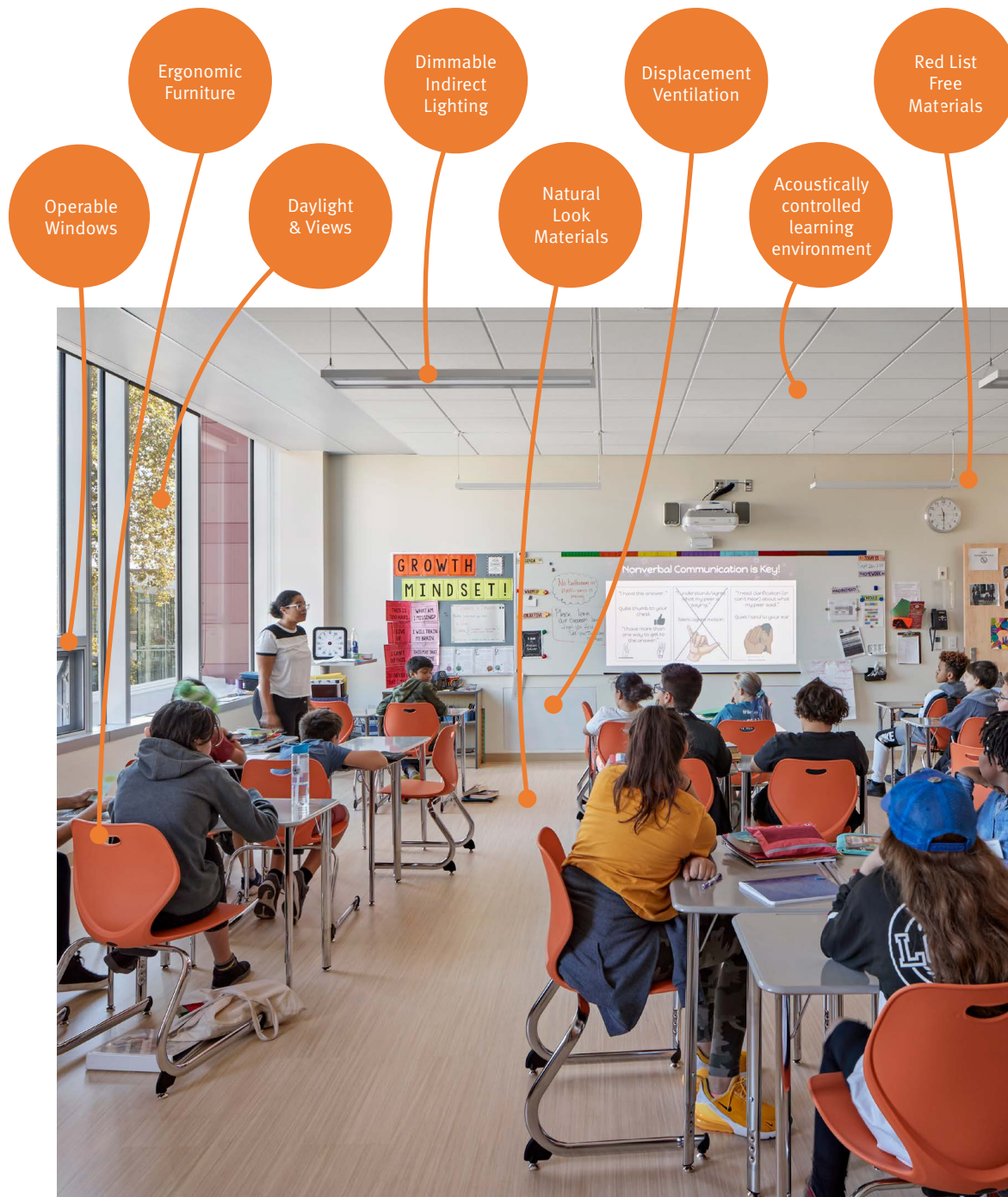


**1,300**  
MWh PV



**100%**  
water reduction for  
non-potable needs





## THE BUILDING IS A LEARNING LAB

Sustainability features are on view to aid in transparent learning opportunities. Interactive touchscreen dashboards display real-time energy and water data and sustainable features of the building. Custom educational graphics located throughout the building and site explain the science and technology behind energy, water, and wellness features.