Center Elementary School

Tewksbury Public Schools

Tewksbury, MA

Executive Summary

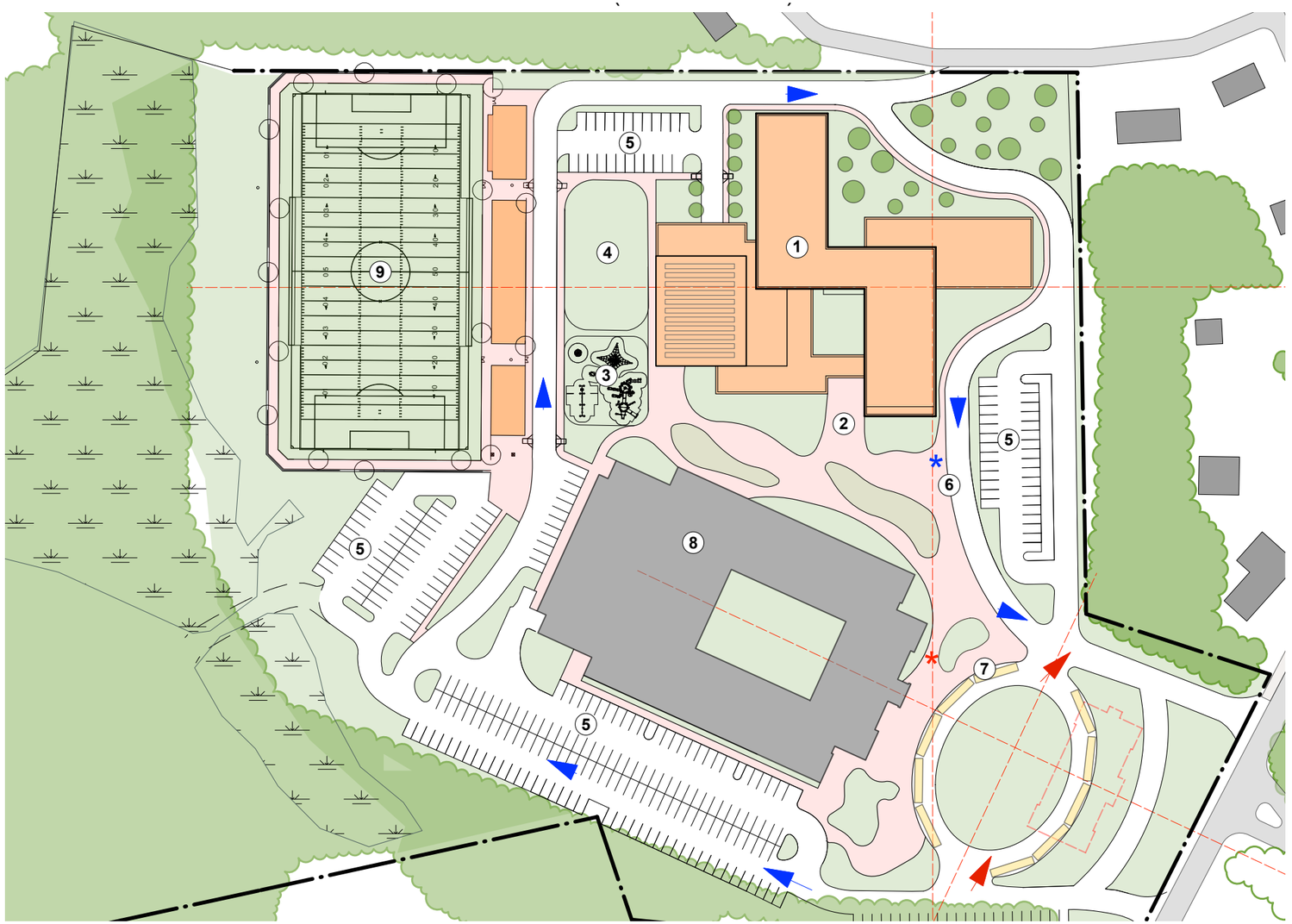
Type: New Grade 2-4 Facility and New Community Field House
Complete: 2023
Cost: $78,800,000
Size: 139,500 sq ft School, 9,000 sq ft Field House
Sustainability Rating: LEED Silver

Through an extensive evaluation process, the community selected a preferred solution to construct a new 790-student elementary serving grades 2 through 4 on the campus of the existing Ryan Elementary School. This district wide approach will bring students together early in their academic careers, minimizing transitions between grade levels, and facilitating a shared class identity. Upon completion of fourth grade, students will move into the adjacent Ryan School on the same campus. Additionally, with this option the district will be taking two aging facilities offline and alleviating over-crowding issues at two other schools.

A welcoming curved entrance to the school with generous seating options encourage informal interaction between students, staff, parents, and all members of the school community. A variety of right scaled outdoor gathering spaces, both interior courtyards and exterior to the school allow for outdoor classroom and social events. The shared plaza, curved pathway system and subtly raised planted areas with native plantings create the appearance of a lush campus linking the 2 schools while allowing for more interaction and learning opportunities.

The three-story school is organized around a centrally located outdoor classroom with classroom wings radiating outward into the landscape. Enrichment spaces such as Art, STEAM Labs with green houses, and Music activate the outdoor classroom throughout the day. The community visioning sessions emphasized the need of outdoor learning, gardens, green house space and accessible green roofs reflecting Tewksbury's rich history of horticulture.

As part of this transformative project, a state-of-the-art field house was constructed, offering modern locker rooms, advanced training facilities, and a fully equipped fitness center. These enhancements significantly elevate the functionality and appeal of the campus, creating a more supportive environment for students and athletes. Most importantly, the improvements have strengthened ties with the broader community by providing accessible, shared spaces that promote health, wellness, and engagement for all.



1. New School
2. Entry Plaza
3. Play Structures
4. Open Play Fields
5. Parking
6. Parent Drop-Off
7. Bus Drop-Off
8. Existing School
9. Relocated Sports Field

School & Community Research and Engagement: Context

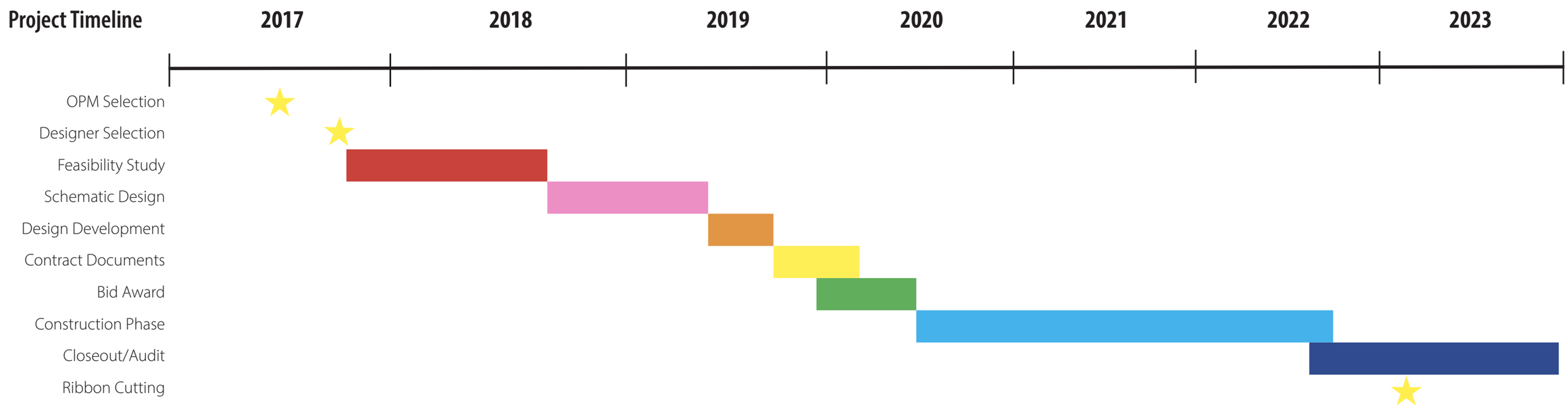
Artist-created watercolor renderings played a pivotal role in visually communicating design possibilities to the community during the early stages of the project, fostering engagement and shared vision.

Community

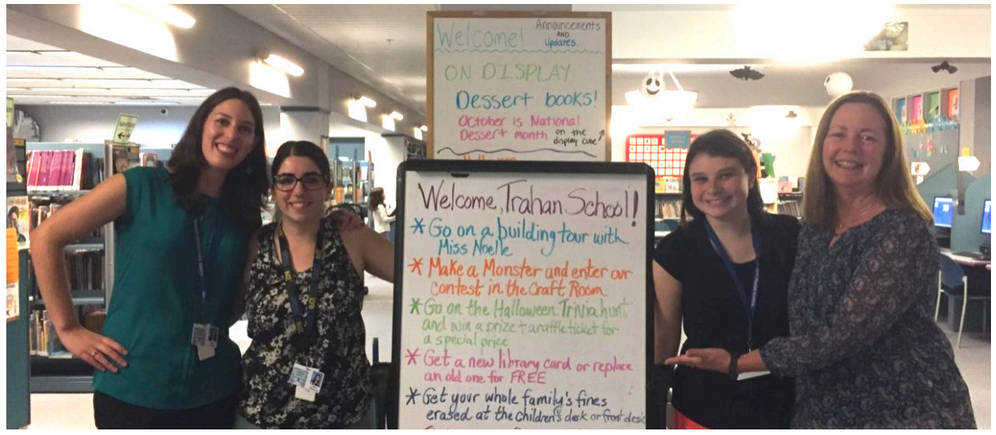
Tewksbury, Massachusetts is a welcoming suburban community located just 19 miles north of Boston, offering a balance of small-town charm and modern convenience. With a population of approximately 31,000, Tewksbury is known for its strong sense of community, family-friendly neighborhoods, active civic engagement, and excellent public schools that serve students from pre-K through high school. Commuters benefit from easy access to major highways like I-93 and I-495, as well as public transit options connecting to nearby cities. The town is rich in natural beauty, with rivers, parks, and open spaces that support outdoor recreation and environmental appreciation. Tewksbury also boasts a proud history, from its colonial roots and ties to President Andrew Jackson to its once-thriving carnation industry, all of which continue to shape its unique identity today.

Challenges

The three 1950's vintage existing elementary schools had served the town of well many years. Today, education is continuously evolving, a greater awareness of social and emotional needs has arisen. The schools as they currently existed could not sustain and support these fundamental needs as well as the burden on the school districts operational cost due. The town's first step in addressing these concerns started with a district-wide masterplan study evaluating all schools within the district. The findings were then submitted to the Massachusetts School Building Authority (MSBA), a grant funding source for public schools, for funding consideration. It took many years of requests and finally the school district entered the program. Community engagement was fundamental to the process and a range of options and enrollment scenarios were evaluated. After careful consideration, it was deemed financially prudent that one new school replace all three aged schools.



School & Community Research and Engagement: Context



Community engagement was fundamental to the evaluation process. The Elementary School Building Committee (ESBC) worked diligently to maintain an open and transparent process for the public. Multiple community informational forums and meetings we're held regularly including building committee, school committee, parent advisory council, community informational forums, selectmen, and town departments. During these meetings feedback has been requested, received, and responded to. Main considerations for evaluating the options included educational benefits, minimizing disruption to students, long-term investment to the town, maximizing benefits to the most students across the district, spaces benefiting the community, traffic management, and shared campus resources. The following is a list of key stakeholders involved in this project, each contributing valuable perspectives.

Students

790 Young Learners

Elementary School Building Committee

A 14-member committee, representing city government, school district administration, elementary school faculty and administration, and the broader community, was formed to guide the project.

Community Members

31,000 Residents

Tewksbury Public Schools

Tewksbury Public Schools, located in Tewksbury, Massachusetts, serves approximately 3,278 students across seven schools, including one preschool, five elementary schools, one middle school, and one high school. The district offers education from pre-kindergarten through grade 12, with a student-teacher ratio of 13:1. Committed to advancing both the academic and social development of all students, Tewksbury Public Schools provides a comprehensive instructional program that emphasizes high expectations and academic rigor. The district fosters a safe and healthy school culture where the rights of all members are respected, embraces individual differences to ensure opportunities for success, and promotes a sense of social responsibility and community service.

Massachusetts School Building Authority

The Massachusetts School Building Authority ("MSBA") is a quasi-independent government authority created to reform the process of funding capital improvement projects in the Commonwealth's public schools. The MSBA strives to work with local communities to create affordable, sustainable, and energy efficient schools across Massachusetts.

The MSBA's grant program for school building construction and renovation projects is a non-entitlement competitive program. The MSBA's Board of Directors approves grants based on need and urgency as expressed by the City, Town, Regional School District or independent agricultural and technical school and validated by the MSBA. Once the MSBA Board of Directors invites a District to participate in the MSBA's grant program, the District and the MSBA work together, in a collaborative process.

School & Community Research and Engagement: Visioning Process

Visioning Sessions

As part of the planning process for the future of Tewksbury's elementary schools, a series of public visioning workshops were held across multiple school sites to engage a broad range of stakeholders, including educators, families, students, and community members. These sessions offered participants the opportunity to learn about 21st-century educational practices and explore how modern academic programs and school facilities are evolving to support dynamic, student-centered learning. Attendees were encouraged to share their perspectives on what they believe is essential for the future of elementary education in Tewksbury, helping to shape both the vision and priorities of the district moving forward. By offering accessible locations and free childcare, the workshops ensured inclusive participation and meaningful dialogue. This collaborative and forward-thinking approach allowed the entire community to contribute to the important task of imagining and building the next generation of Tewksbury's learning environments.

The community visioning sessions strongly emphasized the importance of incorporating outdoor learning environments, gardens, greenhouse spaces, and accessible green roofs—elements that reflect Tewksbury's rich horticultural heritage. These collaborative sessions also guided stakeholders in establishing a clear set of guiding principles, which informed the development of key design patterns integrated into the project. The resulting guiding principles and design patterns are outlined below.

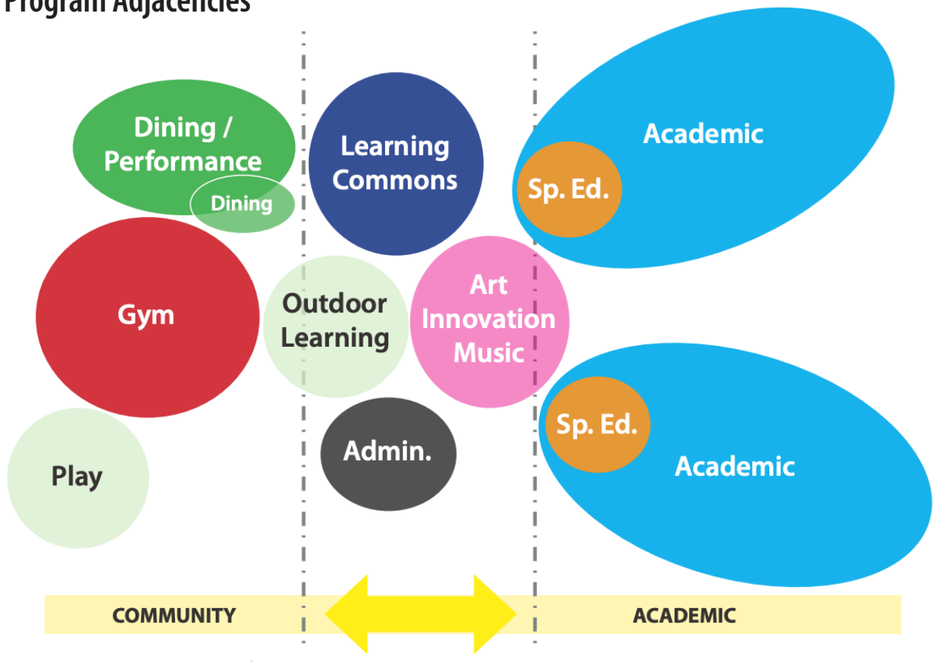
Guiding Principles

- Inquiry-Based Learning
- Small School Feel
- Learning for All
- Adaptability and Evolution
- Collaboration & Connections
- Whole Child Learning
- School as Community Resource
- Purposeful Innovation & Creativity
- Long-Term Sustainability

Design Patterns

- Community Access
- Agile Classrooms
- Display & Exhibition Spaces
- Neighborhood Clusters
- Media Center as Hub
- STEAM Adjacencies
- Indoor/Outdoor Connections
- Professional Work Areas
- Collaborative Spaces
- Push-in Special Education
- Connections to Town History

Program Adjacencies



Enrollment Options

Option 1

Grades 3 to 4

50% District-Wide

265 Students

Option 2

Grades 3 to 4

100% District-Wide

525 Students

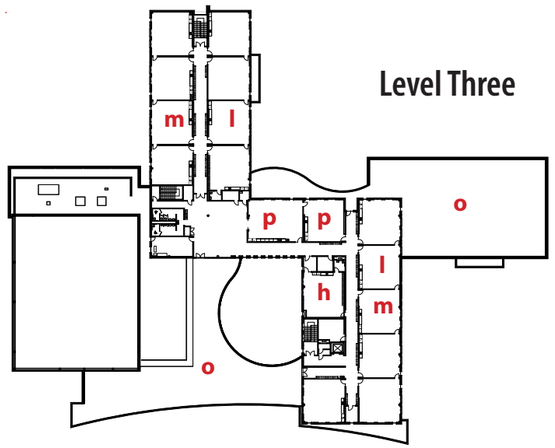
Option 3

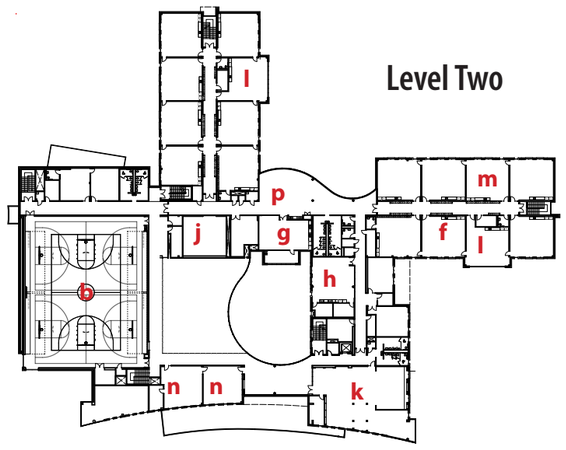
Grades 2 to 4

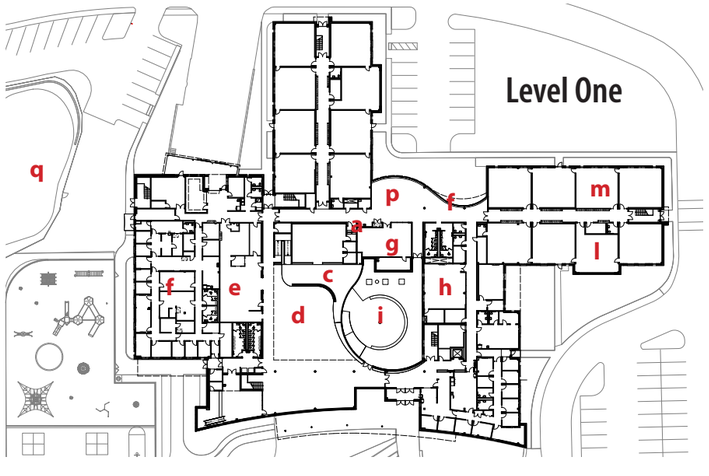
100% District-Wide

790 Students

Physical Environment: Floorplan





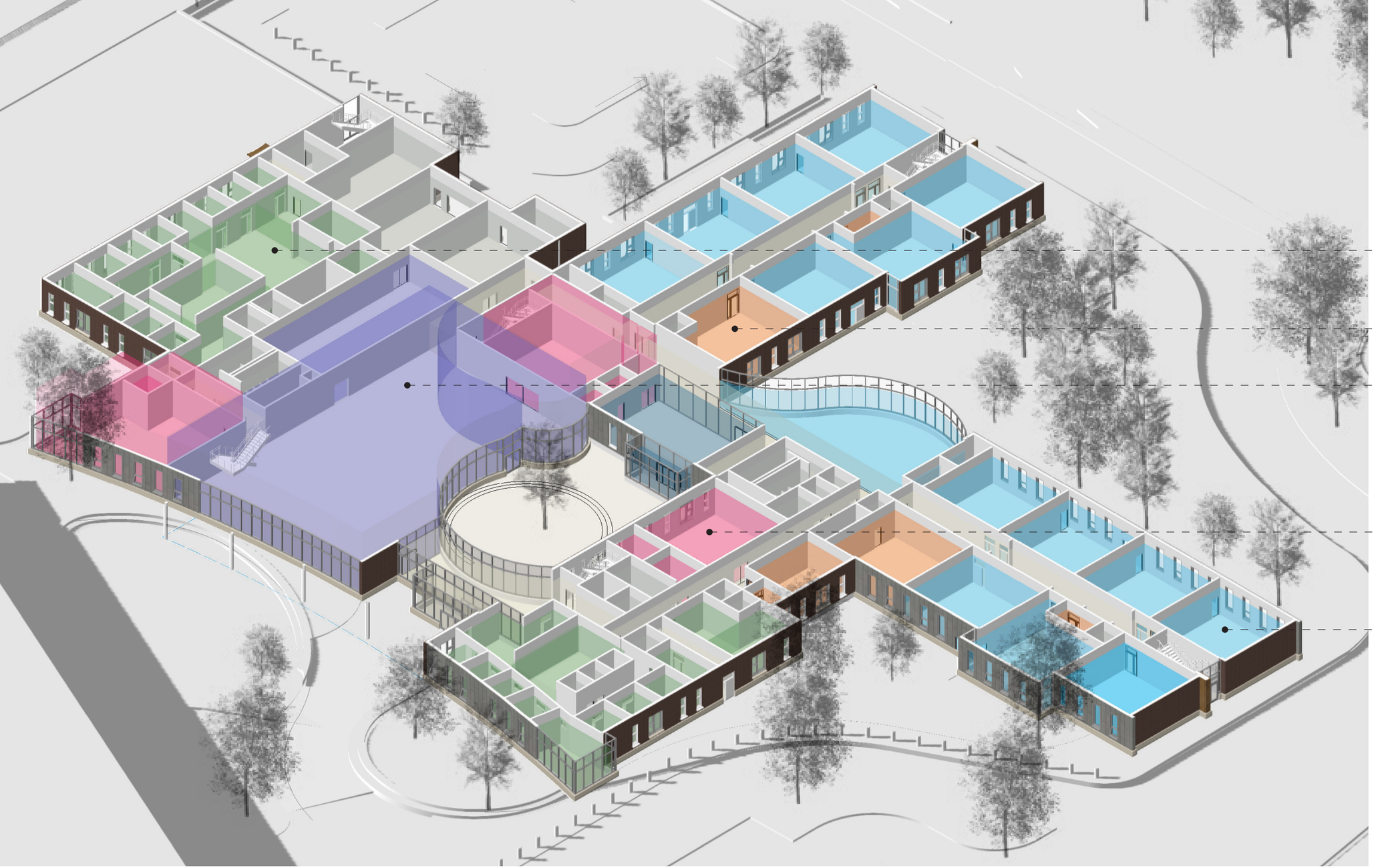


Design for Community

Designed to harmonize with the unique identity of the town, renowned as the "carnation capital of the world," the school's design unfurls in a manner reminiscent of a blooming flower opening for natural light. This playful approach not only yields an abundance of daylight but also carves outdoor learning spaces throughout, while simultaneously presenting an unexpected building massing that integrates with the neighboring community and its delicate ecosystem, notably preserving a vital vernal pool.

Physical Environment

Level One



Secure and Welcoming Entrance

Placing administrative spaces at the main entrance of the school is a key element in enhancing building security. This strategic design ensures that all visitors enter through a single, monitored access point where staff can verify identification and manage entry in real time. It allows for increased oversight of who enters the building, creating a controlled and secure environment while maintaining a welcoming presence for families and the community.

Physical Environment

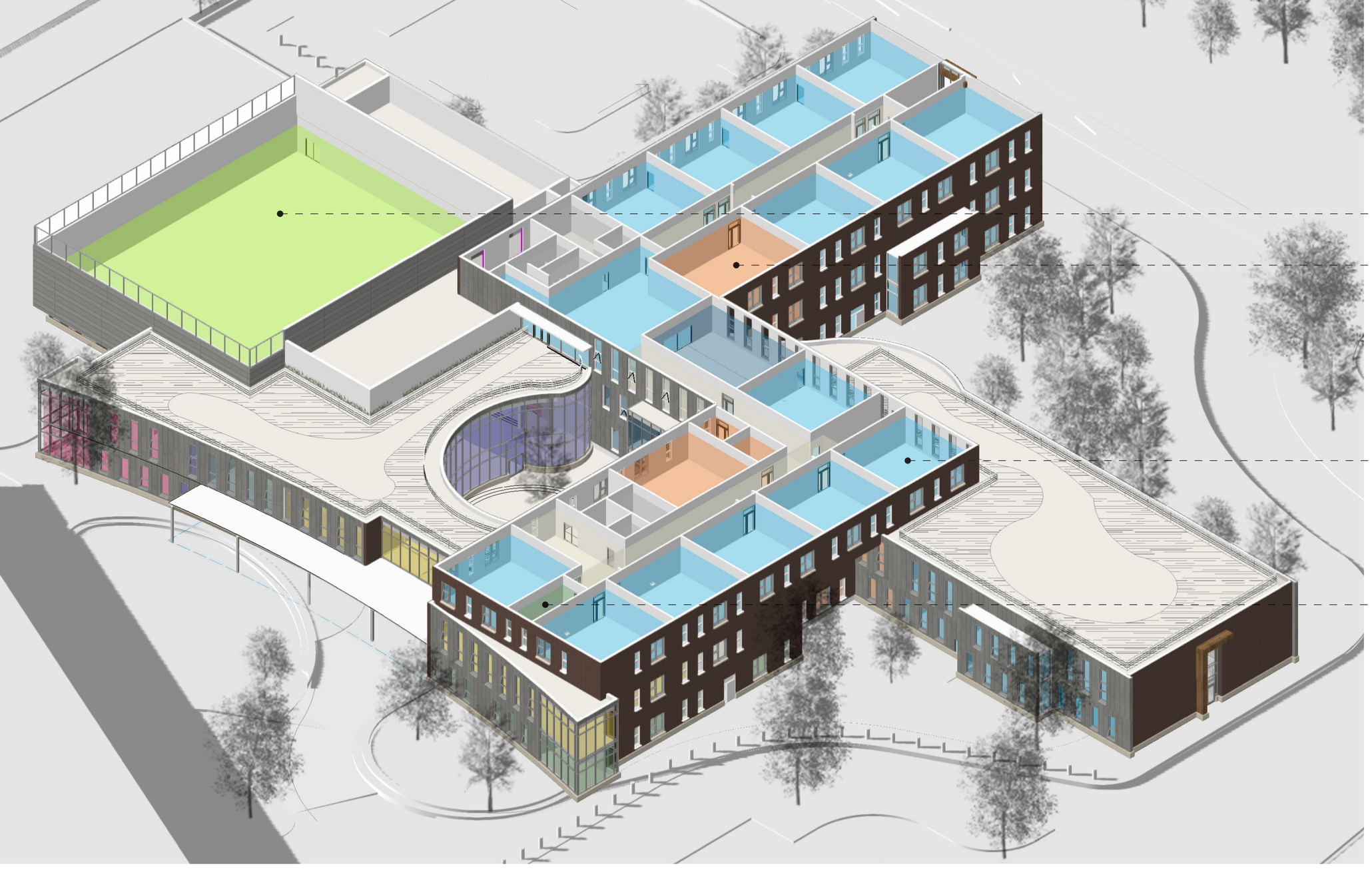
Level Two

Centralized Media Hub

Positioning the media center on the middle floor of the school established a centralized hub that is easily accessible to all students throughout the day. This thoughtful placement supports equitable access to resources, encourages cross-grade collaboration, and reinforces the media center's role as a dynamic center for learning, exploration, and innovation. Its central location enhances visibility and integration within the academic environment, making it a natural gathering point for both independent and collaborative learning.

Physical Environment

Level Three



Inclusive Spaces for Special Education

Integrating special education spaces among general classrooms promotes inclusion and reduces stigma by encouraging interaction among all students. It allows for greater flexibility and collaboration between educators, leading to more responsive and individualized support. This approach strengthens the school community and supports improved academic and social outcomes for students with diverse needs.

Design for Integration

The school takes a recessive approach on the site and effectively mitigates the visual weight imposed by the adjacent preexisting school structure. A gentle curve serves as a soft backdrop to a new outdoor collaboration area between the two schools with a subtle glimpse of the play fields beyond. Zinc paneling and a dark iron spot brick gives a nod to the existing companion school while creating a distinct style complementing the natural landscape.

Design for Wellness

The project aimed to create a healthy interior environment by installing low-VOC containing finish materials, maintained by an efficient ventilation system in compliance with ASHRAE 62.1-2010. The building design helps to minimize and control the entry of pollutants into the building; entryway systems were provided at building entries and MERV 13 filtration was installed in all outdoor air intakes. The team designed spaces with hazardous uses and chemical storage to be isolated from occupied spaces. To further improve indoor air quality, a whole building flush-out took place prior to occupancy to remove any residual contaminants introduced during construction.

Design for Energy

Energy modeling results were used in an iterative fashion to inform the selection of high-efficiency mechanical equipment and lighting. Through this process, the following energy conservation measures were identified: high-performance, well insulated building enclosure, low U-value fenestration, reduced interior lighting power, high efficiency active chilled beams in classrooms with heat recovery units for ventilation air, VRF units for admin spaces, single zone VAV units for gymnasium and dining spaces, condensing boilers and optimized hot water loop parameters, air-cooled heat recovery chiller, and high efficiency domestic water heater and low flow plumbing fixtures.

Design for Resources

Material products with high recycled content were specified where applicable and FSC certified wood was sourced to the greatest extent. In an effort to increase manufacturer transparency, the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts were targeted, installing over 40 different products with environmental product declarations. Through careful planning of source separation of recyclable material, approximately 85% of construction and demolition waste was diverted from landfills.

Physical Environment: Response

Design for Professional Work Areas

Professional and teacher development spaces are integrated throughout the design. These spaces also serve the greater community after school hours for various functions and gatherings.

Design for Exhibition

The school's design thoughtfully prioritizes the celebration of student creativity by incorporating a variety of spaces to display artwork, including formal display cases and flexible pop-up galleries within transitional areas. Transparent walls surrounding the art studios make the creative process visible, transforming art-making into a shared experience that invites curiosity, engagement, and collaboration among students. This intentional integration of art throughout the environment reflects a commitment to innovation, student voice, and an inclusive learning culture.

Design for Community Access

A new athletic stadium replaced the historic Doucette Field, and is used for multiple sports at all grade levels throughout the school district, along with community use. The project also included the construction of a new field house with lockers, training spaces, and a fitness center.

Physical Environment: Response

Design for History

The design team honored the community's history by carefully re purposing key elements from historic structures into the new school facilities. Stone bases from the original field house were salvaged and integrated into the new field house's design, while both original stone piers were meticulously rebuilt to serve as defining features of the new facility. The entrance to the new stadium now leads visitors through these restored piers and a corridor lined with stone from the original structure, creating a meaningful connection between past and present. Additionally, built-in a wooden bookcases from the original Center School were preserved and thoughtfully re purposed in the new school, now enhancing the area adjacent to the library. These efforts reflect a deep respect for local heritage while contributing to sustainable building practices.

Physical Environment: Landscape

Design for Ecosystems

The landscape design incorporates dozens of different native and adapted vegetation types supporting pollinators as well as nearby wetland habitats. Planting a mix of native and resilient species offers a sustainable, low-maintenance landscaping solution ideal for schools with limited facilities budgets. The site design provides ample open space including walking paths, playgrounds, and athletic fields, encouraging interaction and connection with the surrounding habitat and adjacent wetlands. Walking paths connect the front of the school to the playground adjacent to a vernal pool. Site amenities are open to the public and available for community use, extending this connection beyond regular building occupants. Glazing, orientation, and massing of the building also provides opportunities for views of the surrounding ecosystem from the interior.

Design for Water

Using native and adapted vegetation, the site design entirely avoids the use of any permanent irrigation, conserving potable water resources. The use of low-flow plumbing fixtures allows the project to achieve a 32.8% reduction in indoor water use below code baseline. Through a number of energy conservation measures, the project demonstrated a 29.3% reduction in site energy cost and a 42.5% reduction in greenhouse gas emissions when compared to a baseline design. All storm water runoff from the site's impervious areas is treated via deep sump catch basins, water quality structures, and subsurface infiltration systems. Storm water treatment along with impervious surface minimization helps to infiltrate storm water, recharge groundwater, and mitigate overall runoff and erosion and sedimentation. To decrease potable water use, native and adapted landscaping designs require no permanent irrigation. Using low-flow/high-efficiency plumbing fixtures, the project will achieve a 32.8% reduction in indoor water use below code baseline. Additional water meters for subsystems support water management and identify opportunities for additional water savings by tracking water consumption.


ARBORVITAE


HOLLY


WHITE PINE


WITCH HAZEL


WITCH HAZEL (SPRING)


AMELANCHIER (SPRING)


AMELANCHIER (FALL)

SELECTED PLANTS


RED MAPLE


RED MAPLE (FALL)


SCARLET OAK


SCARLET OAK (FALL)


BIRCH


BIRCH (FALL)


AMELANCHIER (FALL)


WITCH HAZEL (SPRING)

SELECTED PLANTS


WITCH HAZEL (SPRING)


AMELANCHIER (SPRING)


INKBERRY


WINTER BERRY


WINTER BERRY (WINTER)


TUFTED HAIRGRASS


BLACK EYED SUSAN


SEDUMS

SELECTED PLANTS


SEDGES


ANDROPOGON


BLUE CARDINAL FLOWER


BLACK EYED SUSAN

Collaborative Spaces and STEAM Adjacencies

Interior collaborative spaces are bright and colorful. These spaces are located adjacent to Art, STEAM and the general classroom wing to maximize use and display the great work of the students.

Educational Environment

Accessibility to Outdoor Learning

The design team prioritized equity by incorporating universal design principles to ensure accessibility for all users. Flexible layouts were implemented to accommodate diverse learning needs, while sustainability remained a key focus. Interior and exterior gathering spaces were created to foster community engagement, and cultural symbols were thoughtfully integrated to reflect the community's identity. Emphasis was placed on equitable access to natural light and air through the use of green roofs, courtyards, outdoor classrooms, and abundant daylit spaces, ensuring all occupants benefit from a healthy, inclusive environment.

Centralized Media Center

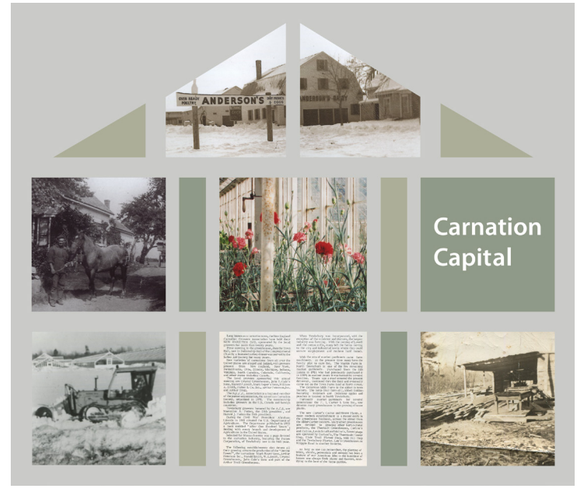
Placing the media center on the middle floor creates a central, easily accessible hub for all students, supporting equal access to learning resources and collaboration across grade levels.

Outdoor Classrooms

The design successfully achieved the communities goal of integrating multiple outdoor classrooms by incorporating green roofs and courtyards, which provide dynamic, nature-connected learning spaces.

Results: Connecting to History

As part of the project's commitment to celebrating local identity and enriching the educational environment, a series of murals highlighting key aspects of Tewksbury's history were thoughtfully incorporated into the school design. Each mural serves as a visual storytelling element that connects students to the town's rich heritage. The depiction of the Village of Wamesit honors the region's Indigenous roots and fosters respect for the land's original inhabitants. The "Line of March" pays tribute to the town's military service and civic pride, reinforcing values of dedication and community. Tewksbury's legacy as the "Carnation Capital" acknowledges its agricultural and horticultural past, aligning with the school's focus on outdoor learning and sustainability. Lastly, murals celebrating the town's historic schools reflect the community's long-standing commitment to education and inspire a sense of continuity and pride in future generations.



Results: Connecting to Community

The community exhibited strong support for the project during the public vote, with widespread participation across age groups and diverse backgrounds. Beyond its role as an educational institution, the project is envisioned as a central hub for community engagement. It will provide valuable resources such as farmers markets, professional development opportunities, and events aimed at advancing social justice and equity within the community.

The school opened its doors in January of 2023 and has met the objectives outlined by the community, school district and the MSBA including LEED silver certification, a manageable and efficient heating and cooling system, and variety of thoughtful academic and community spaces, and a strong connection to the outdoors.

"This new school is an example of when we all pull in one direction, great things can happen"

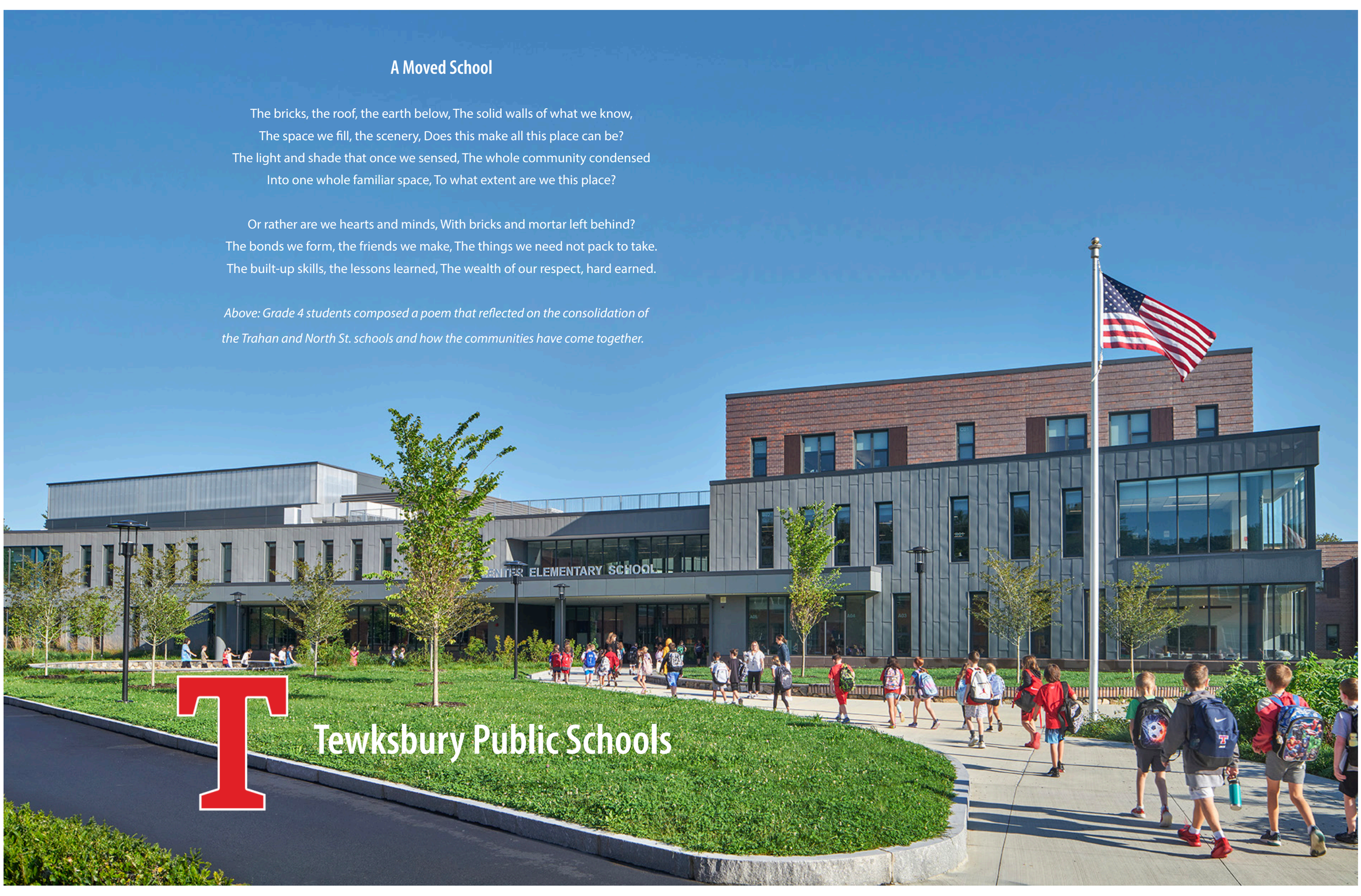
Brenda Theriault-Regan
Superintendent Tewksbury Public Schools

A Moved School

The bricks, the roof, the earth below, The solid walls of what we know,
The space we fill, the scenery, Does this make all this place can be?
The light and shade that once we sensed, The whole community condensed
Into one whole familiar space, To what extent are we this place?

Or rather are we hearts and minds, With bricks and mortar left behind?
The bonds we form, the friends we make, The things we need not pack to take.
The built-up skills, the lessons learned, The wealth of our respect, hard earned.

Above: Grade 4 students composed a poem that reflected on the consolidation of the Trahan and North St. schools and how the communities have come together.



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