

Raymond E. Shaw Elementary School Educational Program

MODULE 3: PRELIMINARY DESIGN PROGRAM

1.2 EDUCATIONAL PROGRAM

A Student-Centered Learning Environment

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RAYMOND E. SHAW ELEMENTARY SCHOOL EDUCATIONAL PROGRAM

Introduction to Millbury: A Proud History^[1]

The residents of Millbury take great pride in the town's rich history and the design of the new Raymond E. Shaw Elementary School should ideally echo and celebrate this history in the use of construction materials and space. Because of this consideration, the Educational Program begins with a brief history of the community.

Millbury's location, at the northern end of the Blackstone River, combined with the area's abundance of waterways, has attracted people for centuries. Native peoples, members of the Nipmuc tribe, frequented the area before the 1600s, fishing in the brooks and ponds, hunting in the uplands, and drawing stone from quarries. The first Europeans came in circa 1720, settling in what would become West Millbury (part of the Town of Sutton at the time). By the 1740s, enough of the population was residing in the northern part of Sutton to warrant the forming of a separate "Second Parish," and in 1813 this parish incorporated as the Town of Millbury.

Aptly named, Millbury became a significant industrial center with water-powered mills opening as early as the mid-1700s. In 1777, Alijah Burbank established a paper mill on Singletary Brook, and the site became a principal supplier of paper for use by the region's printers during the Revolutionary War. The Asa and Andrus Waters Armory, also established in the 1770s, first produced guns for the war effort, and continued to operate until 1845, branching into manufacturing of hoes, scythes, axes, and mill irons. Other mills situated along the several brooks and ponds produced gunpowder and linseed oil, tanned leather, and manufactured shoes. The development of these mills near the confluence of Singletary Brook and the Blackstone River fostered a population center at "Armory Village." This geographic center of the town is known as Millbury Center today, and the Asa Waters house, located at the heart of Millbury Center has been restored as a community gathering space.

Textile production began in 1822 on Singletary Brook and along the Blackstone, and operations expanded to include manufacture of both woolen and cotton. With the completion of the Blackstone Canal in 1829, manufacturers could more efficiently ship goods from Millbury to markets in Worcester, fostering growth in mill activity. The opening of the Providence and Worcester Railroad service in Millbury (1847) advanced the shipping capacity. Workers from Ireland and Canada migrated to the area to take advantage of work opportunities in the manufacturing operations, and in by the mid-1800s, over 30% of the town's population was foreign-born. Throughout the 18th and 19th centuries, Millbury also supported significant farming operations in upland areas away from the waterways, including raising of sheep, cows, agricultural crops, and apples.

Manufacturing in Millbury continued into the early 20th century, with textiles as the main product. Residents take great pride in their town’s industrial history, and celebrate it frequently. Indeed, even the Millbury School District’s mascot, which is the Woolie (a sheep), reflects this historical pride. Beginning in the 1950s, the northern part of Millbury and, in particular the town’s farmed areas, evolved into suburbs for neighboring Worcester. The completion of the Worcester-Providence Turnpike (Route 146) in the 1940s allowed for commuters to live in Millbury, but travel easily by car to Worcester (to the north) and Providence (to the south). The construction of the Blackstone Outlet Center along Route 146 in the northern part of town made Millbury a shopping destination. While many of the town’s historic buildings have been demolished, several historic mill buildings remain and have been repurposed, including the Cordis Mills, now a luxury apartment complex, and the Felter’s Mill, site of several retail businesses and offices. These attractive and well-maintained buildings are reminders of the town’s manufacturing past and help to reflect the community’s pride in its history.

Millbury is a community of approximately 13,500 people located in Central Massachusetts, southeast of and abutting the City of Worcester. It is the northernmost town in the Blackstone River Valley. It is located at the intersection of Route 146 and I-90 (the Massachusetts Turnpike) on the south edge of Worcester and is in Worcester County, Massachusetts, U.S. The town is part of the Blackstone River Valley National Heritage Corridor. The town has historically been a working-class, mill community.

Millbury is characterized by beautiful historic buildings and varied natural features. The Blackstone River meanders through the town’s center (also referred to as Armory Village). The numerous mill buildings along the river’s banks are a reminder of the town’s past. Millbury is included in the Blackstone Valley National Heritage Corridor, a park that celebrates the “Birthplace of the American Industrial Revolution.”

^[1]Adapted from *MILLBURY MASTER PLAN: PHASE I-VISION AND GOALS*

Our Vision for Learning, Core Values, and Beliefs about Learning

The Raymond E. Shaw vision for learning, core values and beliefs, and the priorities of our school community will define our new school. The new Shaw School will be inviting and will foster a sense of community, both among students and staff and in relation to the Town of Millbury itself. It will be designed to house small and collaborative learning communities and will have flexible spaces that allow for multiple purposes both during and after the school day.

Our vision is built upon a foundation of core values. The R.E. Shaw School community adopted the acronym “D.R.E.A.M.” as a way of articulating these core values and asks students and staff alike to live by the DREAM pledge:

- Demonstrate Citizenship**
- Respect School, Self, and Others**
- Embrace Differences**
- Actively Participate in Learning**
- Maintain a Safe Environment**

The DREAM pledge is well-known by students, their parents, our staff, and the community. It serves as a foundation for our vision and is driven by our beliefs:

As a School Community, We Believe:

- Purposeful collaboration between students, parents, faculty, and staff promotes student engagement, wellbeing, success, and achievement;
- Students learn best in a safe, supportive, and equitable learning environment;
- Academics should be authentic, rigorous, and promote self-directed learning and collaboration;
- Our students must think independently, respect individuality, and act with integrity in the global community to become productive citizens;
- We are all learners, we are all educators.

Strategic Plan Objectives

The guiding principles and strategic objectives outlined in the Millbury School District drive our fiscal priorities, our professional development offerings, and our hiring choices. Programs and supports that have been eliminated in many other districts have been maintained or even expanded at the Shaw School, reflecting a continued commitment to the needs of all students. The School Committee and school and district leaders are considerate of this, and together have ensured that the educational needs of children are the highest priority when it comes to resource allocations.

The District's vision is to partner with parents and the community to ensure a physically, emotionally, and intellectually safe environment that emphasizes citizenship, respect, tolerance, collaboration, and active engagement. Students will be given ample opportunity to exemplify the school's core values by actively engaging in the community, participating fully in their own learning, and working together to maintain a safe environment. Shaw students will be challenged by a purposeful, relevant, and rigorous instructional program that prepares them to be collaborative, active, and successful citizens. Classroom practices and routines support and reinforce this vision.

Our District Learning Plan and the Shaw School Learning Plan turns this vision into reality by specifically addressing the following four organizing objectives:

Learning Environment: The District fosters a safe and healthy learning environment and adequate resources to maximize students' social, emotional, and academic growth.

Student Learning: Practices maximize the impact of student engagement, learning, citizenship, and achievement.

Professional Learning: Professionals collaborate to improve instructional practices and student achievement.

Learning Support: The District's resources, strategies, and practices ensure inclusive learning opportunities and success for all students.

Grade and School Configuration

The Raymond E. Shaw School currently provides educational programs for students in grades 4 through 6 and is one of three schools in the district. Millbury Memorial Jr./Sr. High School serves grades 7 through 12 and Elmwood Street School currently serves students in PK through grade 3.

However, the school district is actively investigating the possibility of shifting grade 3 to the Shaw School as part of a renovation or new building project. This reconfiguration would address space challenges posed by class size limitations in grades PK through 3, the demand for more pre-kindergarten capacity, new academic programs at Elmwood, and the need for more community space. These space challenges would otherwise be insurmountable at the current Elmwood Street School. Should the reconfiguration proceed, the new facility must accommodate the needs of our 3rd graders and their teachers, who would be self-contained in a classroom grade level cluster with full access to specials, student supports, and common areas such as the gym, library, and cafeteria. In addition, 3rd graders would have opportunities to interact with their 4th grade peers during recess and lunch, as well as the entire school population during school assemblies and other whole-school functions. Also, while 3rd graders would be organized in a familiar self-contained model during their first year at Shaw, they will have the benefit of observing their 4th grade peers organized in the team-teaching model, which will help to ensure a smoother transition to 4th grade.

To best serve our students, the new physical space must feel intimate while also providing ample space for rich and varied student learning opportunities. Students thrive in small learning communities where teachers know them well; in communities that support a sense of safety, respect, and trust; in communities that promote creativity and the authentic application of knowledge and skills; and in communities that support differentiated learning with the appropriate facilities. To support these needs, our educational plan calls for clustering grade level teams into small learning neighborhoods that strongly promote this sense of intimacy, safety, and belonging and allow for regular student collaboration and professional collaboration. Opportunities for regular formal collaboration are essential for our teachers, who work together as grade-level teams, as co-teachers with special educators, and as team content teachers.

The Shaw School is committed to closing achievement gaps in our student population and has responded to disparities in achievement by incrementally shifting to a co-teaching model across many classrooms. The shift to co-teaching—which pairs a regular educator and a special educator in the same classroom—has required expanded opportunities for teachers to regularly and formally collaborate for the purpose of reviewing and revising the curriculum, differentiating instruction, analyzing achievement data, and improving instructional practices. The new Shaw School must fully support this model by including dedicated spaces for professional

collaboration and design elements that allow for regular collaboration within and among classrooms.

The Shaw School's current structure limits a host of educational opportunities, especially for our Special Education students and students in need of other support programs, such as ELL, OT/PT, speech therapy, and others. In addition, the current Shaw School fails to take advantage of learning opportunities beyond the school walls. Located on an approximately 14 acre section of a larger 150 acre parcel, the Shaw School is surrounded by woodlands, wetlands, stone outcroppings, historic stone walls, and natural playscapes. Incorporating this landscape into students' learning and development will be a key feature of the new Shaw School structure and site design.

Class Size Guidelines

The Millbury School Committee and the MPS leadership recognize that class size is an important factor in a quality education, especially in the earliest years of education. The School Committee and administration are committed to using available research and best practices to set advantageous class sizes whenever possible. As a result, effective for the 2017-2018 school year, the School Committee recommended no more than 18 students in each classroom for grades PK through 1 and no more than 20 students in each classroom for grades 2 and 3. Unfortunately, due to space limitations at the Elmwood Street Elementary School, these recommendations are not currently in effect for grade 3.

These recommendations, along with expanded programs such as the STEAM lab and a Special Education inclusion program, have created space constraints at the Elmwood Street Elementary School. Moving grade 3 to the new or renovated Shaw School would reduce these constraints and satisfy a demand for additional seats in our pre-kindergarten program. While the School Committee and administration would also prefer to have smaller classes in grades 4 through 6, space limitations at the Shaw School prevent such an option. In some classrooms at Shaw, the adoption of co-teaching has reduced the student-to-teacher ratio, but not the average class size.

A goal of the new or renovated facility is to create classroom spaces and adjacent areas that function as small and personalized learning environments. The number of required classrooms based on current enrollment is outlined below:

Grade Level	# of Classrooms	Average Class Size	Enrollment with Avg. Class Size
3	6	22	132
4	6	26	157
5	6	23	139
6	6	24	146

Applying the design principle of making a large school feel smaller, grade levels should be clustered to allow teams of teachers to work together with a cohort of students. A smaller, more personalized learning environment can be created with such clusters, which also promotes a strong sense of shared responsibility among teachers and helps to ensure that no student feels anonymous.

Clustering of grades will directly support professional collaboration within each grade and among grade levels. Clustering in these groupings will support both horizontal and vertical alignment of the curriculum, more interdisciplinary planning, and result in a more collective responsibility for preparing students for the upcoming grade. The strong sense of community created through clustered grade levels also allows classrooms to more easily and frequently collaborate with one another. Teachers will be able to work side-by-side in classrooms with retractable adjoining walls to foster collaboration. Flexibility to create larger learning spaces by joining spaces for a variety of purposes including “front porch” spaces outside classroom entrances will promote student collaboration, project-based learning, and cross-curricular learning opportunities. Interior classroom windows will serve the purpose of informal supervision with a clear line of sight into hallways and gathering spaces while also making teachers’ practices more public and student learning more visible. Front porch spaces should be differentiated from the hallway by a low wall with counter space and storage, which will contribute to a sense of community and make teaching and learning more visible.

All classroom spaces must be adaptable to changing instructional methods. While the choice of classroom furniture will play a large role how flexibly a classroom can be used, all classrooms will have some consistent features, such as small group instruction and work, seating areas at desks and/or tables for an entire class for full group instruction, ample counter space to allow for

individual or group work either while standing or sitting on stools, built in storage, and moveable walls to allow for the creation of larger or smaller spaces when needed. To fully deliver the science curriculum in grades 4, 5, and 6, certain classrooms should also have dedicated lab stations complete with access to water and sinks.

School Scheduling

The school schedule is revisited annually by the principal and assistant principal in collaboration with team leaders and changes are made based on enrollment, student and programming needs, staffing level, and contractual agreements regarding educator preparation. The student day is from 8:10 to 2:28. The Shaw School's academic schedule operates on a five-day cycle with core classes meeting daily. Mathematics and ELA classes are held during 90-minute blocks. Social studies and science classes are held during 45-minute blocks. The Shaw School has a variety of special classes – visual arts, library/media studies, physical education, technology, and music – that provides students with a rich variety of learning experiences and teachers with many opportunities for interdisciplinary collaboration. Students attend all six specials weekly for 45-minute blocks. Appropriate space for our specialists to provide these learning experiences and engage in interdisciplinary lessons is essential.

We are committed to providing our students with the least restrictive learning environment possible. Therefore, resource rooms must be located within close proximity to students' classrooms within each grade level "neighborhood" in a manner that fully integrates special education services. In addition, the Shaw School must also provide other types of spaces for teaching and learning that is aligned to our local standards and to our strategic goals. These include:

- Appropriate spaces to schedule math and reading intervention services to students
- For choral music, students require an appropriate space separate from the instrumental music program
- Flex spaces with proximity to clustered grade levels
- Shared "front porch" collaboration / project areas among classrooms
- Grade level clusters to allow elementary teachers to collaborate on interdisciplinary and project-based learning across all classes of the grade
- Fully-accessible classrooms that allow students with physical disabilities to be scheduled into any learning space in the building
- Ample opportunities to display student work and celebrate student success
- Classroom sinks with built-in water fountain
- Classrooms that take extensive advantage of natural daylight
- Acoustic materials adequate to manage distracting noise levels
- Voice lift technology in every classroom

- Adequate built-in storage spaces for classroom materials, including technology
- Contiguous classrooms for teachers at the same grade level
- Easy access to student and staff restrooms near neighborhoods, including gender-neutral restrooms
- Flexible learning spaces, including classroom walls that can be opened to create a larger learning space and a neighborhood design that creates small learning spaces among classes of the same grade level
- Collaboration spaces for grade-level and co-teaching teams (ELA/social studies, math/science teachers)
- Music room adjacent to the rear of the stage/performance space and accessible with retractable wall;
- Art room with direct access to exterior spaces, adjacent to kiln room and a storage room
- Sensory room
- Physical and occupational therapy room with offices adjacent to/accessed from the therapy room
- Collaboration space to accommodate special education related teachers with storage spaces

Teaching Methodology and Structure

The Shaw School uses a team teaching model arranged by grade level. Within each grade, students will see a specific teacher for mathematics and science and travel to another teacher for social studies and English language arts. Shaw teachers support student learning through a variety of instructional techniques: co-teaching, team teaching, small group instruction, project-based learning, and individualized instruction. Each student is unique and learns in different ways and timeframes. To that end, the Shaw School must be adaptable with its staffing support, instructional methodologies, and assessment practices.

Tiered levels of support provide the general education foundation in all classrooms, with Tier I support given to every student every day, Tier II support provided both inside and outside of class, and Tier III interventions typically provided in a pullout or separate classroom. If a student demonstrates academic, social-emotional, or behavioral concerns despite thorough Response to Intervention procedures, teachers may refer them to the Student Success Team meetings which require professional space—such as a small conference room—for confidential collaboration.

Grouping Practices

General education teachers, in collaboration with special educators and instructional coaches, determine a variety of grouping methods to meet the instructional needs of all students. General education, special education, literacy and math specialists, and instructional coaches collaborate to provide tiered instruction in the most inclusive environment possible. Pull out instruction is provided to students who require it based on their identified need for Tier II support or Tier III

intervention. Grade level classrooms should be organized within common hallways and adjacent locations to help create a grade-level neighborhood atmosphere. Close proximity of grade level classrooms and the necessary small group learning spaces is critical in order to achieve the requisite communication and collaboration for a variety of grouping methods in grade level teams. Additionally, classrooms should include spaces where small groups of students can work independently, receive instructional support, and participate in interventions within the classroom.

Instructional Opportunities of the School Site

The school building itself must play a significant and very positive role in the culture, educational approach, and daily lives of our students and the adults who care for them. Green technology and a focus on environmental appreciation should be an important aspect of the physical structure. In addition, the design should allow the physical plant to serve an educational role, following a building-as-teacher model when it comes to design, construction, and maintenance. Whether it's through monitoring wastewater, understanding the science behind passive and active solar power, the origins of construction materials, or studying conservation measures built into the new structure, the physical plant should be used to help students learn about science, sustainability, and caring for the environment. For example, signs and working exhibitions could identify design elements that demonstrate architectural, mechanical, and green building features. The Shaw School should stand as a physical demonstration of environmental stewardship and innovation.

Located on approximately 14 acres of land, the new Shaw School site must take advantage of a range of natural habitats—such as woodlands, stone outcroppings, wetlands, and historic stone walls—by providing classroom access whenever possible. This access will allow students to explore outdoor spaces with their peers and teachers, play a central role in their education, and impact students' attitudes towards school and the broader environment. Thoughtfully connecting the school site with these outdoor learning spaces will allow the school to:

- Create a richer teaching environment and enable students to connect the natural world to the curriculum
- Create a sense of responsibility and an awareness of nature within the school grounds
- Provide hiking trails for physical education and wellness classes
- Encourage students to better understand biodiversity and appreciate the need for environmental care on a global level
- Encourage students to value the school grounds as a place to play, explore, and make a connection with the natural world

Educational Technology

Technology and digital literacy are essential components of a modern education, both inside and outside of schools. Educational technology classes are currently taught in every grade level at Shaw in a dedicated computer lab. As the district moves closer to a 1:1 mobile device environment, a dedicated computer lab will no longer be necessary. Instead, a flexible technology space near the school's maker space would be more appropriate. All classrooms should also be capable of providing full and dependable access to a range of educational technologies.

As part of our District Learning Plan, we envision students and staff using technology to enhance student choice, personalization, and connectivity within and beyond the school day. In addition, our educators use technology to augment, modify, and redefine learning experiences for their students. To support this vision, technology must be accessible throughout the building and in certain outdoor learning spaces.

The new facility must accommodate this vision by including a strong and reliable wireless network to support multiple devices per user; multiple and strategically placed outlets and drops; sufficient space for technology storage and charging; and well-provisioned classrooms that redefine the current standard. We are planning for the standard learning space to include a wireless access point and appropriate network drops, voice over internet protocol phone, a mounted projection / interactive whiteboard with enhanced audio system, and a document camera. The new building must support technology-rich project-based learning opportunities by including a dedicated, flexible, and sustainable maker-space that allows for collaboration, and encourages curiosity and inquiry.

English Language Arts / Literacy

Shaw's English Language Arts curriculum is fully aligned with the Common Core and emphasizes the close reading of both fiction and non-fiction text; persuasive and creative writing; phonics, spelling, and word study; and guided reading in small groups.

Schedules for grades 4 through 6 reflect a daily ELA block of 90 minutes. During this protected instructional block, students receive large and small group reading and writing instruction from their classroom teachers. Students who receive additional supports and literacy intervention receive targeted instruction from special educators, reading tutors, and ELL teachers outside of this time and class space. Teachers use multiple formative and summative assessments to measure student progress, which they review during grade-level data meetings led by an ELA instructional coach and administrators. Teachers examine whole class and small group instructional implications, as well as identify students and develop plans for individual literacy interventions.

Although most of the reading and writing instruction takes place within the classroom environment, smaller work areas are necessary to facilitate individualized instruction, including both 1:1 and small group settings for discussions and conferencing. In addition, small work areas are needed to support individual and small group general education interventions in reading and writing, inside and outside the classroom. Reading tutors need dedicated space in which planning, coaching, direct instruction, and intervention can take place.

Shaw's ELA teachers work closely with a full-time instructional coach dedicated to literacy support. This coach, along with a full-time STEM coach and a district-wide technology integration coach will need sufficient office and collaboration space in the new school.

English Language Learners (ELL)

The English Language Learners (ELL) program provides services to students whose primary language is not English and who are not yet proficient in English. The program provides support, with services focused on students' English language acquisition, literacy development, social integration, and academic achievement.

The ELL program serves students outside of the classroom and, therefore, needs its own space. Like special education, housing the ELL programs in the general vicinity of the grade level clusters is desirable. Wall space and storage is also important, given the use of visuals and the need for storage of the general education program materials made available to the teachers and students in the ELL classrooms. ELL classrooms will be reflective of other learning spaces – flexible, well provisioned, and accessible, and able to be used to support small group instruction and center-based learning. Small groups of students meet with ELL teachers several times per week both in and out of the classroom for direct English instruction.

Mathematics

The goal of the mathematics program in Millbury is to meet the needs of all learners so that they become critical problem solvers and reflective thinkers about mathematics in our evolving global, technological, and digital world. We also seek to stimulate interest and curiosity in the field of mathematics to develop students' passion and interest in a math career. The curriculum is grounded in the Massachusetts Curriculum Frameworks for Mathematics, in both Standards for Mathematical Content and the Standards for Mathematical Practice.

Schedules for grades 4 through 6 reflect a daily mathematics block of 90 minutes. During this protected instructional block, students enjoy opportunities for individual learning, pairs and small groups, and whole-class instruction. Therefore, teachers need the space to change as instruction changes – furniture that can be easily re-configured for different groups, technology

easily employed throughout the room, ample space so that students can spread out and use a variety of objects to manipulate and see the math, projection with robust Internet access to show real-life applications and simulations, examples of mathematical models, and sharing student work. Appropriate, safe and secure storage space is also critical to accommodate the various manipulative materials that students use to explain their mathematical thinking and problem solve.

Students who receive additional supports and math intervention receive targeted instruction from special educators and math tutors outside of this time and class space.

Teachers utilize instructional practices and mathematical experiences that are accessible to all, and provide opportunities for all students to engage in meaningful mathematics. There are opportunities to work with other teachers to integrate the disciplines and highlight STEM project-based opportunities.

Our two part-time mathematics tutors require resource room space to provide individual and small group support across all grade levels. The space will be used for collaborative planning and intervention work with students. For interventions and pull out services, math tutors need well-equipped learning spaces with access to the appropriate technology that supports math learning and assessment. The space should be adaptable to accommodate students of various ages as specialists work with students across grade levels. Teachers and students will benefit from storage facilities, flexible configurations of space, and location. Proximity to classrooms as well as other specialists is important due to the frequent student transitions and the ongoing collaboration between specialists.

Shaw's math and science teachers work closely with a full-time instructional coach dedicated to STEM support. This coach, along with a full-time ELA coach and a district-wide technology integration coach will need sufficient office and collaboration space in the new school.

Music

The Shaw School has both vocal music instruction and instrumental instruction for all students across all grades. The new building will have a tremendously positive impact on the performing arts department. The new school must be capable of hosting a variety of music concerts (choral and instrumental) throughout the school year. An improved stage, preferably located in a "cafetorium," and adjacent to a music room will provide a more appropriate, appealing, and comfortable venue for student performances and audiences, and also serve community use. In addition, locating the stage adjacent to the band room will allow for expanded instructional space during the typical school day.

Physical Education

The physical education department provides standards-based instruction to all students across grades 3-6. Students participate in quality instructional physical education programming weekly for 45 minutes. The curriculum is presented in accordance with the Massachusetts Frameworks and follows a developmental sequence from body management competence, to fundamental skills, to specialized skills, while simultaneously addressing physical fitness and social skills. The physical education facilities will require ample and appropriate storage space for large physical education equipment and supplies that can be easily accessed and set up. Access to outdoor playgrounds and fields is very important. A full-size basketball court with pull out bleachers that can accommodate spectators are essential, as athletic events (basketball, cheerleading, and volleyball) are held as part of the Junior/Senior High School sports program and the town's recreation program.

Science

The science program is designed to actively engage students in their own learning using hands-on inquiry, outdoor learning, intriguing materials, scientific tools and high-quality media (books, video and online resources) accessible to all learners. The curriculum integrates science/engineering content, science and engineering practices, and concepts and is aligned with the national Next Generation Science Standards.

Science rooms must include a flexible lab space for students to work and for the safe storage of science materials and supplies. Specific needs of a science lab are in addition to the general design and development of other contemporary teaching spaces – wall space for visuals, projection area(s), technologically versatile, natural light, flexible furniture, etc. Storage space for lab equipment and other materials must be available.

Outdoor learning is built into the science curriculum. We envision using the outdoor spaces of the school as learning labs (providing field trips right outside the school doors). Students can observe and study the natural world in areas that include outdoor seating areas so that classes can go outside, not only to study science, but also to listen to stories and engage in other group work. In addition, a school garden with a greenhouse and composting facility integrated across the 3-6 science curriculum should be easily accessible from an exit in close proximity to classroom clusters.

In order to implement our robust and rigorous hands-on, inquiry-based science and engineering curriculum, teachers require flexible spaces beyond the classroom that invite and promote creativity, innovation, and collaboration. The makerspace/project area will serve these needs. This space needs to be equipped with wall space for recording questions and ideas, sinks to provide water for investigations and cleanup, space for storing tools and makerspace materials

(glue guns, cardboard, etc.), and adequate storage space for science materials. Sunny windows and access to the outdoors are needed to grow plants.

Although students will be engaging in inquiry and real-world solving in every classroom, the stand-dedicated makerspace is needed to allow students to have a place to further explore concepts and extend their projects. This space will provide a common area where students can display and present projects. It will need to be equipped with sinks, design “thinking” walls for recording ideas and questions, tools, tool walls, sewing machines, etc. as well as spaces for laptops. It also could house the 3D printer.

Social Studies

Teachers continue to incorporate more technology into social studies teaching, enabling them to access real-time data, utilize digital textbooks and atlases, and support the development of digital literacy that includes Internet research, online student learning activities, and diverse instructional strategies to accommodate all learning styles. Students are also taught media literacy skills to prepare them to be discerning media consumers and critical thinkers.

The social studies curriculum and instruction demand physical spaces similar to the other subjects – flexible, accessible, safe and secure storage, and wall space for visuals and student work displays. To make sure future-ready learners can engage in classroom activities, classrooms require a combination of electrical outlets and power strips that are distributed through the classroom, along with a smart teacher control panel with USB ports that allow for easy document camera connections, interactive whiteboard equipment controls, and speakers. In addition, teachers need to be able to control natural and artificial lighting quickly.

Visual Art

The new school’s art program should ideally be located adjacent to an outdoor space and provide adequate space for varied supplies and equipment necessary for full delivery of the art curriculum. A kiln is essential, requiring the presence of an appropriate safe room and storage space. In art, students develop observational skills, inquiry, creativity, and craftsmanship through illustration, painting, pottery, ceramics, and design and production with wood, leather, and other assorted materials. Students make projects and produce artwork to decorate and display around the school. Presentation of student artwork is essential for building a sense of pride and ownership, celebrating creativity, and providing a public audience. Sinks with heavy duty drains to include clay and/or plaster traps to prevent clogging is key.

SPECIAL EDUCATION AND STUDENT SERVICES

Special education services throughout the district address the needs of identified learners with disabilities between the ages of three and twenty-two who require specialized instruction to support access to the curriculum. A wide range of services is provided to meet the individual needs of students, from academic intervention to related services in areas such as counseling, speech therapy, occupational therapy and physical therapy. Availability of therapeutic services for students requiring special education intervention in the realm of social, emotional and adjustment areas is present at all levels. Staff works closely with families in ensuring that necessary services are identified and provided to students in accordance with applicable mandates.

Inclusion is a core belief and practice at the Shaw School. This educational model expects us to meet the needs of all students by educating non-typical learners alongside their typical peers. The environment necessary to nurture and foster inclusion is built upon a shared belief system between general and special education, and a willingness to merge the talents and resources of teachers. An inclusive education helps prepare students with disabilities for an integrated adult life and builds understanding and acceptance within the broader community.

However, in order to be successful, some students may require a different classroom environment, lower student/teacher ratio, and smaller class size than are available within a general education classroom. In order to provide a continuum of services across all buildings, the Shaw School requires a space for a substantially separate classroom with its own bathroom, designed to address the needs of students in grades three through six with mild to moderate cognitive and developmental delay across different domains (language, fine motor, gross motor, and intellectual delays). This classroom will be staffed with a certified intensive special needs teacher and instructional assistants and/or ABA technicians, serving no more than 12 students. Related service providers (Speech, Occupational Therapy, Physical Therapy, and Board Certified Behavior Analyst) will consult with classroom staff and provide direct services to the students.

Physical environment impacts learning for all students and especially for students with disabilities. The physical structure of the new school building should support our inclusive approach, our commitment to providing all students an appropriate education in the least restrictive environment, and our system-wide special education programs. Therefore, each grade-level cluster must include a classroom for special education programming that directly supports that grade. It is important that every student has an authentic sense of belonging and feels safe in their school. Clustering grade levels, integrating special education spaces throughout the school, and providing services to students in close proximity to their cohort peers are examples of how the design of the school can support the academic and social-emotional learning goals for students with special needs.

The location of the classrooms allows staff to communicate and collaborate fluidly throughout the day on student needs and programming. To support teachers, special educators, and families, there should be a small conference room that is primarily used for IEP and 504 meetings. This conference room should be able to hold at least 12 people comfortably.

Dedicated resource rooms in the new school should provide equitable access to high quality learning. Equitable access begins with being fully ADA compliant and includes equity in classroom quality, access to natural light and windows, as well as proper heating and ventilation. Special education classrooms need to be flexible and easily reconfigured, given that different students are served in the same space at different times. In addition, accessibility to a wide variety of technology options is essential. Assistive technology plays a critical role in supporting engagement and learning for students with special needs. Different devices and equipment for different purposes need to be available with supports for quick set-up and secure storage.

The new building must include an office for the special education team chair with a space for a secretary adjacent to a conference room and space for secure records storage. Grade level Flexible small group spaces, located near classrooms, are desired for students with varied disabilities who require a flexible level of services outside of a general education classroom. These spaces would provide special educators opportunities to conduct small group instruction, social skills groups, and collaborate with other related service providers to support students. Within each room there should be adequate space for academic support, social skills instruction, an area for sensory support and quiet academic work.

In addition to the special education services our educators provide, a wide range of specialists including a school psychologist, a school adjustment counselor, a guidance counselor, a Teacher of the Deaf, an educational audiologist, speech and language pathologists, occupational therapists, and physical therapists provide other essential services and support. In order to provide coordinated services and promote collaboration among these professionals, the Shaw School should include separate dedicated spaces for these services. The occupational therapy and physical therapy space should be separate and include necessary equipment to serve students' needs. As such, it could be located near the gymnasium, as some equipment could be shared with the physical education department.

Guidance

Offices for the guidance counselor, school psychologist, and school adjustment counselor should be dispersed throughout the school and within grade-level clusters. Each office must provide adequate space to host 4-6 individuals, particularly considering that a common practice is for the counselor staff is to conduct lunch groups with students.

Health Services

The Health Services Suite houses the nurse and allows students to be checked, receive services, or wait comfortably for a parent, guardian, or family member to pick them up. The Health Service Suite requires an entry or reception area where students can await services, two examination/ treatment areas that include beds and space for private meetings and confidential consultations. There should be locked storage, a sink, and a refrigeration unit in the nurse's office. The Health Service Suite should include gender-neutral ADA-compliant restroom with a shower. The suite should be adjacent to and accessible via the main office, accessible via a separate hallway entrance, and accessible via an exterior door.

Learning Commons and Library/Media Services

The Shaw School's Learning Commons (LC) is an essential teaching and learning tool and should be centrally located and serve as the heart of the school. Used heavily, the LC has scheduled classes taught by a library specialist as well as opportunities for class use, meetings, and presentations. It is a gathering hub for the school and is used for large group activities, both during and after school hours. It must contain varied and flexible spaces and easily-movable furniture to allow for student, staff, and community collaboration and opportunities for quiet reading and reflection. Specifically, it must include three distinct and flexible spaces: a collaborative space focused on project-based learning and group work, a social space where students can work together less formally and where conversation and productive noise is acceptable, and an area for individual reading. Convenient power access and connectivity must be available for students and teachers to incorporate technology into their learning experience.

SCHOOL CULTURE AND SOCIAL EMOTIONAL LEARNING (SEL)

To truly live our mission, it is essential that our school is safe, welcoming, respectful and nurturing. Such a culture is created when everyone in the school is aligned to our core beliefs, values, and behaviors. Children need to learn these beliefs, values and behaviors, and adults need to model, guide, and explicitly teach them to children using intentional strategies in order to establish a culture conducive to learning.

The physical structure and spaces need to support and reinforce the school's culture. Overall, to support a positive, collaborative, and welcoming culture, the school needs to provide gathering spaces to promote social interaction and engagement among students and adults. The Shaw School needs to facilitate and encourage connections among grade levels and across the disciplines, be welcoming by design, and show evidence of collaboration, respect, and high expectations with student work prominently displayed throughout the school. All of this supports the social emotional learning of students.

Our SEL curriculum will require classroom space to conduct morning meetings. Each classroom should accommodate these class meetings and other similar functions that are developmentally appropriate. Larger flex space areas will also be needed for full grade-level meetings, presentations, and performances.

OUTDOOR SPACE FOR PHYSICAL ACTIVITY

The use of outdoor spaces for physical education, athletics, recess, and curriculum-based learning will be an integral part of the learning at the new Shaw School. Dedicated and age appropriate playground space is needed for all grades. Space for play areas can be integrated as long as they contain a variety of spaces and structures appropriate for the broad developmental and recreational needs of this age span. Hard surface areas with basketball hoops for all types of ball play during physical education and recess is necessary. Because the Shaw School fields are used after school by our Jr./Sr. High School soccer and baseball teams, a rectangular turf field appropriate for practice and competition for both school and town teams and a varsity level baseball field should be included in the site design.

Located on approximately 14 acres within a larger 150 acre parcel acres of land, the new Shaw School site must take advantage of a range of natural habitats—such as woodlands, stone outcroppings, wetlands, and historic stone walls—by providing classroom access whenever possible. This access, which will link outdoor learning spaces together with a trail system, will allow students to explore outdoor spaces with their peers and teachers, play a central role in their education, and impact students’ attitudes towards school and the broader environment. This trail system can also provide the Jr./Sr. High School cross country team an appropriate course for home meets.

PROFESSIONAL LEARNING AND TEACHER PLANNING

The new school’s physical spaces will support a culture of professional learning characterized by a focus on student learning; making professional practice more visible; collaboration; and, inquiry, reflection, and analysis. Collaboration is an essential element of Shaw’s culture. Teachers work in grade level teams to plan and coordinate lessons, review assessment data, and discuss best practices. The emphasis on collaboration is becoming even stronger now that we are moving to a co-teaching model, which pairs a regular classroom teacher and a special educator in the same space for all instruction. This coordinated team approach better balances the essential community of a classroom with the collective responsibility of a team of adults ensuring every student succeeds. The physical spaces where teachers meet and collaborate need to support this professional learning culture and teams of adults taking responsibility for all of their students succeeding.

As designers of learning, teachers will spend time planning with colleagues to create the best learning experience for all students, including cross curricular and grade-wide learning experiences. Educators need appropriate and well-provisioned spaces to gather to analyze data, determine next steps for instruction, engage with instructional coaches, review student work, vet online resources, and read and discuss the contemporary literature of the profession.

ADMINISTRATIVE CENTER

The main office must create a positive and welcoming first impression for the entire community. Rather than functioning simply as an administrative space, it should have the feeling of a welcome center, with an inviting reception area and comfortable waiting space. The administrative center must include office space for the principal and the assistant principals (both offices should accommodate a conference table for private meetings), a large conference room, secure storage for student and assessment records, and a teacher mailroom.

LUNCH PROGRAM

The mission of the Shaw School lunch program is to provide healthy, nutritious, affordable meals to students and staff alike. Breakfast and lunch are served daily. As part of the National School Breakfast and Lunch Program, we follow guidelines set by the USDA regulating what qualifies as a healthy breakfast and lunch. The new building must include a full kitchen that allows for meals to be cooked from scratch. The kitchen must include separate delivery access.

The Shaw School cafeteria should be placed in the building so that all grade levels can travel to and from in a reasonable amount of time. It should have access to plenty of natural light, be large enough so that the entire school is able to eat lunch over the course of two lunch periods, and be accessible to the community after school hours. An appropriately-sized cafeteria will ensure that lunch can both start and end at appropriate times.

In addition, the Shaw School cafeteria should include a stage area so that it can also serve as a performance space. Further, the kitchen area should be easily secured and hidden from view during after school performances. For greatest flexibility for school use and after hours use, the cafeteria should be divisible to create two multipurpose spaces through use of a movable wall that opens up to create a larger space for a variety of events and large group meetings. It should have adequate sound proofing and easy access to restrooms.

TRANSPORTATION

Because the considerable walking distance of the Shaw School driveway, the district provides bus transportation for all students at district expense. Ten busses accommodate the transportation needs of our current student configuration. However, further study is necessary to determine if an

eleventh bus would be necessary to accommodate the addition of grade 3. Millbury parents also have the option of dropping off and picking up children. A number of students are driven to school by parents daily which, along with traffic from incoming staff, creates a logistical and safety challenge at the current Shaw. A new site design must effectively route bus and car traffic separately in order to increase efficiency and safety. In addition, safe access for kitchen, facility, and shipping/receiving separate from school traffic is necessary.

FUNCTIONAL AND SPATIAL RELATIONSHIPS AND ADJACENCIES

Functional and spatial relationships and adjacencies are the key to the successful design of the new and efficient facility. Relationships between classrooms and programs in the school define the programmatic, functional, spatial, and environmental requirements of the educational facility and become the basis for the design. The Shaw School will rely upon adjacencies for communication, collaboration, flexible grouping, co-teaching, and teaming. Providing learning areas both in and outside classrooms for small group work, individual tutorial spaces, and additional instructional break out spaces are critical.

Community is a core value among students, staff, and parents. The Shaw School will be a warm and inviting place for children, staff, and families. A priority for the students, staff, and community is to retain a “small school” feel in the elementary school design. The school will require a welcoming main office / welcome center and a community arrival space that can accommodate a large morning influx of students, as well as active dismissal procedures. Our students, faculty, and parent community value and require a space for the entire school to gather, both as a common space to gather and celebrate learning and as an area to spotlight the arts through assemblies and performances. A stage area large enough to seat 50 students in band or chorus, which will be within the dining facility, should provide ample space for a variety of performances and storage space for musical instruments and chairs. The cafeteria should be designed so that it can be subdivided into a separate, multi-purpose area for indoor recreation, large-group meetings, and after-school activities. After school, we provide Aftercare programming, which requires sufficient space for homework support, small group activities, and active play. In addition, Jr./Sr. High School students often use the Shaw School’s facilities for athletic team practice. Therefore, the cafeteria / multi-purpose space must include ceiling heights to accommodate colorguard team practice and cheerleading practice. Adjacency to other community spaces such as the learning commons will provide the greatest flexibility for a variety of uses after hours. The gymnasium must include fixtures for varsity-level volleyball and basketball practice.

The Shaw School will be a relationship-oriented community that practices and values inclusive partnerships and mutual support in all aspects of the school community. This is the overall spirit of the school that will drive the design of the facility.

SECURITY AND SAFETY

The new school facility will ensure the safe drop off of students, with safe secondary access for emergency needs. The Shaw School requires:

- Access control utilizing a security access fob device by authorized staff
- A formal, two-step entry process with double sets of doors separated by a reception foyer that allows staff to visually identify visitors before allowing entrance to the school
- Visual security of entrances utilizing a video monitoring/recording system
- The ability to make common spaces, such as the learning commons, cafeteria, gym, and stage available after hours while keeping academic spaces secure
- Safe staff and visitor parking
- Safe pathways for pedestrians coming from varied directions to the school
- Safe bus access systems that do not interfere with drop off and pick up traffic
- Safe recess grounds and play fields that can be properly supervised by staff and protected from vehicular traffic
- Visual monitoring of the driveway and parking lots
- Safe access for kitchen, facility, and shipping/receiving separate from school traffic at the main entrance
- Safe and appropriate access to the perimeter of the building and play fields
- Office for school resource officer with a direct view of the main entrance and accessible to students and staff from a common space; also accessible via exterior door