RECEIVED
By Town Clerk/ksb at 11:27 am, Mar 29, 2025

Town of Southborough, Massachusetts

Neary Building Committee

February 20, 2025

8:30 AM

Virtual Zoom Meeting

Pursuant to Chapter 20 of the Acts of 2021, An Act Relative to Extending Certain COVID-19 Measures Adopted During the State of Emergency, signed into law on June 16, 2021, this meeting will be conducted via remote participation. No in-person attendance by members of the public will be permitted.

Neary Building Committee:

Members Present: Roger Challen, Mark Davis, Denise Eddy, Kathryn Cook, Andrew Pfaff, Chris Evers, and Jason Malinowski

Members Absent:

Ex-Officio

Members Present: None

Members Absent: Gregory Martineau Superintendent of Schools, Stefanie Reinhorn, Assistant Superintendent of Teaching and Learning, Keith Lavoie Assistant Superintendent of Operations, Rebecca Pellegrino, Assistant Superintendent of Finance, Kathleen Valenti, Neary School Principal, Steven Mucci, Principal of Woodward School, Mark Purple, Town Administrator, and Brian Ballantine Town Treasurer/ Finance Director

I. Call Meeting to Order

Jason Malinowski called the Neary Building Committee meeting to order at 8:42 am.

II. Approval of Meeting Minutes from February 13, 2025 and February 20, 2025 (not at this time)

Jason Malinowski asked for a discussion and a vote.

Jason Malinowski moved, Denise Eddy seconded, and it was unanimously voted by roll call, "To accept the February 13, 2025 meeting minutes as presented."

MOTION TO APPROVE MEETING MINUTES

Roll Call
For: Kathryn Cook, Mark Davis, Chris Evers, Denise Eddy, Roger Challen, Andrew Pfaff, and Jason Malinowski
Opposed: None
Abstained: None

III. Approval of Outstanding Finance and Communications Subcommittee Meeting Minutes

The Finance Subcommittee and Communications Subcommittee will review and approve the minutes from their previous meeting during their next scheduled meeting.

IV. Schematic Design Report – Review and authorize OPM to submit to MSBA

Jason Malinowski asked for a discussion and a vote.

Jason Malinowski moved, Kathryn Cook seconded, and it was unanimously voted by roll call, "The Margaret A. Neary School Building Committee vote to approve the schematic design submission and authorize Skanska USA Building, as Owner's Project Manager, to submit to the MSBA (Massachusetts School Building Authority) on behalf of the District."

MOTION TO APPROVE SCHEMATIC DESIGN REPORT

Roll Call
For: Kathryn Cook, Mark Davis, Chris Evers, Roger Challen, Denise Eddy, Andrew Pfaff, and Jason Malinowski
Opposed: None
Abstained: None

V. Review and approval of project update release

Jason Malinowski suggested that the chairs of the Finance Subcommittee and the Communications Subcommittee work together on a release that includes financial metrics for the community. However, they are open to the idea of holding a separate meeting to review the release if necessary. The Committee has agreed that the first option is more efficient. They will draft a communication, and if any Committee members have significant feedback, a meeting will be scheduled to discuss it.

Jason Malinowski moved, Roger Challen seconded, and it was unanimously voted by roll call, "The Committee authorize the Communications and Finance Subcommittee chairs through a project update release based on the latest schematic design and estimated project funding."

MOTION TO APPROVE PROJECT UPDATE RELEASE

Roll Call
For: Kathryn Cook, Mark Davis, Chris Evers, Roger Challen, Denise Eddy, Andrew Pfaff, and Jason Malinowski
Opposed: None
Abstained: None

VI. Meeting Schedule – To be determined based on communication planning.

VII. Other business that may properly come before the Committee (None at this time)

VIII. Adjournment

Jason Malinowski requested a motion to adjourn.

Jason Malinowski moved, Roger Challen seconded, and it was unanimously voted by roll call, "To adjourn."

MOTION TO ADJOURN

Roll Call
For: Kathryn Cook, Mark Davis, Chris Evers, Roger Challen, Denise Eddy, and Jason Malinowski
Opposed: None
Abstained: None

Jason Malinowski adjourned the meeting at 8:51 am.

Respectfully submitted,

Mariana Silva, Central Office Administrative Assistant

Office of Superintendent

List of documents used at this meeting:

1. Neary Building Committee Agenda of February 20, 2025
2. Neary Building Committee Meeting Minutes of February 13, 2025
3. Schematic Design Report

RECEIVED
By Town Clerk/jfh at 11:45 am, Feb 19, 2025

Town of Southborough, Massachusetts

Neary Building Committee

February 20, 2025

8:30 AM

Virtual Zoom Meeting

May be watched or may participate in the meeting remotely with the meeting link at: https://ma-southborough.civicplus.com/674/Virtual-Meetings

Pursuant to Chapter 20 of the Acts of 2021, An Act Relative to Extending Certain COVID-19 Measures Adopted During the State of Emergency, signed into law on June 16, 2021, this meeting will be conducted via remote participation. No in person attendance by members of the public will be permitted.

Revised Agenda (all items may have one or more votes taken to the extent action is required):

I. Call Meeting to Order
II. Approval of Meeting Minutes from February 13, 2025 and February 20, 2025
III. Approval of Outstanding Finance and Communications Subcommittee Meeting Minutes
IV. Schematic Design Report – Review and authorize OPM to submit to MSBA
V. Review and approval of project update release
VI. Meeting Schedule
VII. Other business that may properly come before the Committee
VIII. Adjournment

Jason W. Malinowski, Chair

Town of Southborough, Massachusetts

Neary Building Committee

February 13, 2025

7:30 PM

Virtual Zoom Meeting

Pursuant to Chapter 20 of the Acts of 2021, An Act Relative to Extending Certain COVID-19 Measures Adopted During the State of Emergency, signed into law on June 16, 2021, this meeting will be conducted via remote participation. No in-person attendance by members of the public will be permitted.

Neary Building Committee:

Members Present: Roger Challen, Mark Davis, Denise Eddy, Andrew Pfaff, Kathryn Cook, and Jason Malinowski

Members Absent: Chris Evers

Ex-Officio

Members Present: Gregory Martineau Superintendent of Schools, Stefanie Reinhorn, Assistant Superintendent of Teaching and Learning, Keith Lavoie Assistant Superintendent of Operations, Rebecca Pellegrino, Assistant Superintendent of Finance, Steven Mucci, Principal of Woodward School, Mark Purple, Town Administrator, and Brian Ballantine Town Treasurer/ Finance Director

Members Absent: Kathleen Valenti, Neary School Principal

I. Call Meeting to Order

Jason Malinowski called the Neary Building Committee meeting to order at 7:31 pm.

II. Approval of Meeting Minutes from February 10, 2025

Jason Malinowski asked for a discussion and a vote.

Jason Malinowski moved, Denise Eddy seconded, and it was voted 5-0-1 (Kathryn Cook abstained), "To approve the minutes as presented."

MOTION TO APPROVE MEETING MINUTES

Roll Call
For: Andrew Pfaff, Denise Eddy, Roger Challen, Mark Davis, and Jason Malinowski
Opposed: None
Abstained: Kathryn Cook

III. Skanska/Arrowstreet Updates

a. Schematic Design Report – Review and authorize OPM to submit to MSBA

Katy Lillich from Arrowstreet stated that the schematic design report consists of three parts: the narrative, the drawings, and the budget. The revised narrative report, incorporating the changes, will be sent out.

b. Financial Update – Review of latest project cost estimates, discussion of value engineering, and vote on updated cost projections

Kathryn Cook presented financial data regarding cost implications for taxpayers. She explained that for every million dollars reduced from the current $78 million debt, homeowners with an average house value of approximately $1 million would save $14.20 annually.

Jim Burrows, Project Manager at Skanska, introduced various cost reduction options categorized into building elements and scope groups. Several proposed reductions in the building exterior include decreasing acoustical roof screens ($360,000 savings), changing brick to CMU at the gym ($66,528 savings), and eliminating curtain walls and storefronts at the front entrance to masonry ($24,600 savings). Additional savings could be achieved by implementing a uniform brick masonry ($85,728 savings) and replacing ACM panels with aluminum corrugated panels. Interior cost-cutting measures include eliminating gym bleachers and reallocating them within the FF&E budget ($70,200 savings), reducing the gym size ($163,200 savings), and decreasing the number of movable partitions in classroom wings ($48,600 savings). Further savings would result from removing adjoining classroom doors ($27,072 savings), eliminating borrowed light from classrooms ($29,376 savings), and omitting tile behind classroom sinks ($49,613 savings). Proposed changes to the HVAC system could yield significant savings. Switching to a VRF system without geothermal would save $4,081,417 while opting for air-source heat pumps instead of ground-source systems would save $2,669,712. Kathryn Cook noted that state and federal rebates, expected to exceed $5 million, were not included in this estimate but would be reflected in future calculations. Moving the soil allowance from the construction budget to construction contingency would shift $750,000 while reducing the state soil allowance to $500,000 would save $900,000. Further reducing the allowance to $250,000 could result in $1.2 million in savings. Proposals to replace concrete sidewalks with bituminous or asphalt sidewalks would save $90,000 while switching the emergency drive from asphalt to crushed stone would yield an additional $108,000 in savings. Eliminating planting in the courtyard between classroom wings and replacing it with grass could save $306,000.

Mark Davis raised concerns about acoustical roof screens, particularly regarding the noise impact on nearby residential areas. He suggested utilizing a secondary roof structure to mitigate sound. Denise Eddy requested visual examples to assess the impact on aesthetics. For the interior, Stephanie Reinhorn, Assistant Superintendent of Teaching and Learning, advocated for keeping movable partitions in classroom wings to support flexible learning environments. Discussions also covered the potential swap of borrowed light windows for sliding storefront doors and exploring cost-effective alternatives for sink backsplash materials.

The Committee discussed soil contingencies, balancing risks while ensuring adequate funding. Jason emphasized the importance of not depleting contingency funds too early in the project. If soil work exceeds estimates, a Value Engineering (VE) exercise may be required to maintain full contingency when setting the budget with the MSBA. If the soil work comes in under budget, the unused funds would return to the town. Keith Lavoie opted to retain concrete sidewalks due to their durability and

lower maintenance costs compared to asphalt. He raised concerns about high maintenance costs associated with crushed stone pathways. For the courtyard, the preference leaned toward a simplified design with functional grassy areas, artificial grass mounds, and potential outdoor seating while keeping costs at $153,000.

The existing playground will be approximately 30 years old when the new building is completed. The current add/alternate estimate for a new playground is $1,053,506. The design team stated that the estimate is based on the number of students, equipment, and area preparation. They will revisit the estimate as well. Some Committee members suggested seeking alternative funding, such as CPC or SOS funds, or handling the playground as a separate bid outside the CM's oversight. Jason proposed including it in the town's capital plan. The estimated cost for 10 sliding doors is $207,000, with a potential reduction to $170,000 if windows are removed. Jason suggest the construction contingency related to soil should be $350,000.

Discussions focused on accurately communicating project costs to taxpayers. Based on the latest calculations, the town share is $74,972,490, when including the incentives of $5,035,897, the final bond is $69,936,593. The Mass Save program has confirmed $1.268 million in funding, while an additional $4 million remains uncertain. The cost to a house valued in five years will be $1,150,000 in Southborough would be $981 annually. Jim emphasized the importance of setting the budget for submission to the MSBA. The Committee will continue refining details related to grossing factor, soil contingency, and playground scope while awaiting further financial updates.

Jason Malinowski asked for a discussion and a vote.

MOTION TO APPROVE SUBMISSION TO THE MSBA

Jason Malinowski moved, Roger Challen seconded, and it was unanimously voted by roll call, "The Margaret E. Neary Elementary School Building Committee has completed its review of the schematic design for a total project budget of $108,517,025 and approves submission to the MSBA for its consideration."

Roll Call
For: Roger Challen, Andrew Pfaff, Kathryn Cook, Mark Davis, Denise Eddy, and Jason Malinowski
Opposed: None
Abstained: None

IV. Community Feedback and outreach plan

Mark Davis believes that one crucial aspect missing from the outreach efforts is the perception of a "no" vote as unacceptable. He argues that the issues currently facing the Neary School building should not be ignored in the future. The website fails to highlight that the school is not equipped with sprinklers, does not address some of the materials used in the building, and does not mention the lack of handicap accessibility. Mark emphasizes that no one should feel comfortable attending the town meeting and voting "no."

Jason Malinowski expressed his greatest disappointment with the project so far, noting that public outreach has not been effective in encouraging community participation. He

believes the best way for residents to form their own opinions is by visiting the building in person. However, despite opening the building twice for community observation, the attendance has been dismal.

Kathryn Cook suggested that the spreadsheet updated by Jim Burrows, which includes information on B1, C1, C4, and base repair, should be made available to the public. She believes this would provide a clearer understanding of why a new four-grade school is the better option. Additionally, she highlighted two key concerns among the senior population: cost and the comparison between Finn School and Neary School.

V. Public Comment (None at this time)

VI. Meeting Schedule – February 20, 2025

VII. Other business that may properly come before the Committee (None at this time)

VIII. Adjournment

Jason Malinowski requested a motion to adjourn.

Jason Malinowski moved, Andrew Pfaff seconded, and it was unanimously voted by roll call, "To adjourn."

MOTION TO ADJOURN

Roll Call
For: Andrew Pfaff, Kathryn Cook, Mark Davis, Denise Eddy, Roger Challen, and Jason Malinowski
Opposed: None
Abstained: None

Jason Malinowski adjourned the meeting at 10:08 pm.

Respectfully submitted,

Mariana Silva, Central Office Administrative Assistant

Office of Superintendent

List of documents used at this meeting:

1. Neary Building Committee Agenda of February 13, 2025
2. Neary Building Committee Meeting Minutes of February 10, 2025
3. Skanska/ Arrowstreet VE/VM Draft Items dated February 11, 2025
4. Updated Cost Incentives Summary
5. Skanska/ Arrowstreet VE/VM Scenarios dated February 11, 2025

ARROWSTREET

SCHEMATIC DESIGN REPORT

MARGARET A. NEARY ELEMENTARY SCHOOL

SOUTHBOROUGH, MA
FEBRUARY 25, 2025

FINAL DRAFT

PREPARED FOR
NEARY BUILDING COMMITTEE &
MASSACHUSETTS SCHOOL BUILDING AUTHORITY

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SKANSKA

Jim Burrows
Project Director
Skanska USA Building Inc.
101 Seaport Boulevard, Suite 200
Boston, MA 02210

February 25, 2025

Ms. Maria Caprigno, Project Coordinator
Massachusetts School Building Authority
40 Broad Street, Suite 500
Boston, MA 02109

Margaret A. Neary – Module 4 Schematic Design (SD) Submission

Dear Ms. Caprigno,

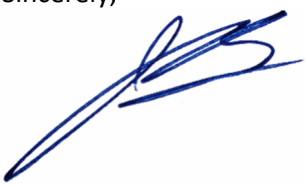
Please accept this submission of the Schematic Design documents for the Margaret A. Neary Elementary School Project for consideration of approval by the MSBA at their April 30, 2025, Board of Directors meeting. Pursuant to the Module 4 – Schematic Design requirements and in accordance with Section 8.1.1.2 of the OPM Contract, we have reviewed and coordinated the materials associated with the enclosed Schematic Design Submittal. We certify, to the best of our knowledge, that the information is accurate, complete, the Proposed Project as documented within the Schematic Design Submittal is within the District's budget, and that the District has approved the materials for submission to the MSBA in full compliance with the MSBA's requirements.

The Neary Building Committee met to approve the Schematic Design Submittal and to authorize Skanska USA, the Owner's Project Manager, to submit the PSR Submittal to the Massachusetts School Building Authority on behalf of the School District no later than February 25, 2025.

The submittal has been attached electronically as requested by the MSBA. We look forward to our next meeting with the MSBA team, to review our progress with the program to date.

Please contact us should you have any questions or concerns regarding this submission.

Sincerely,



Skanska USA Building, Inc.
Jim Burrows
Project Director

Cc: Sy Nguyen, Senior Project Manager, Skanska USA Building, Inc.

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ARROWSTREET

MARGARET A. NEARY ELEMENTARY SCHOOL

Schematic Design Report

February 25, 2025

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J: Resilient Mass Action Team Design Standards Tool Report
K: Room Data Sheets
L: Designer's Cost Estimate
M: OPM's Cost Estimate
N: Life Cycle Cost Analysis (LCCA)

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INTRODUCTION

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Introduction

In accordance with the requirements of the MSBA's School Building Program Module 4: Schematic Design, the following report, based on the preferred solution approved by the MSBA's Board of Directors, is to document in detail the scope, budget, and schedule of the proposed project. The Schematic Design submission addresses the concerns and questions raised by the MSBA during its review of the Preferred Schematic Report. It identifies any changes incorporated during development of the Schematic Design Submission based on further evaluations and considerations. The Schematic Design Submission and all changes have been approved by the Neary Building Committee.

OVERVIEW

Public meetings & Outreach

During previous phases of the project, the project team has held two community meetings, 5 NBC Meetings.

Since the PSR response was submitted to the MSBA on November 13, 2024, the project team has completed the following:

- 5 Neary Building Committee Meetings
- 6 Design Review Meetings
- 4 Community outreach meetings ('Office Hours') on January 10, February 1, February 24 and March 1, 2025.

The project team worked with the Neary Building Committee to develop the Preferred Option to the Schematic Design level. The design team also met with the Educators in a series of bi-weekly design meetings throughout the SD phase.

The project was submitted to the Southborough Historic Commission and received approval on November 19, 2024.

BUDGET & TOTAL FUNDING

The Total Project Budget for the new Neary Elementary School is not to exceed $xxx million. On February XX, 2024, the Neary Building Committee voted to approve the Total Project Budget. Refer to the 'Total Project Budget' on page XX.

SUMMARY OF PROJECT DESIGN

The Preferred Schematic Report approved by the MSBA Board of Directors on October 30, 2024, describes the construction of a new 4 grade elementary school on the current site.

The new school will be located on the footprint of the existing school, which minimizes soil removal costs and allows the existing fields to remain. The site is shared with Trottier Middle School, minimizing transitions and creating a self-contained school campus and a seamless educational experience from grades 2 through 8. By keeping students in a consistent environment, they build relationships with both peers and educators, creating a supportive foundation, all within a central and supportive environment.

The site design provides for a loop for bus / van traffic from passenger cars, adding a layer of safety, especially during busy drop-off and pick-up times. The separation can help prevent congestion and ensure that students are entering and exiting the building in a controlled and secure way. Visitor parking is provided at the main entry, while staff or longer duration parent parking is located at the side of the building.

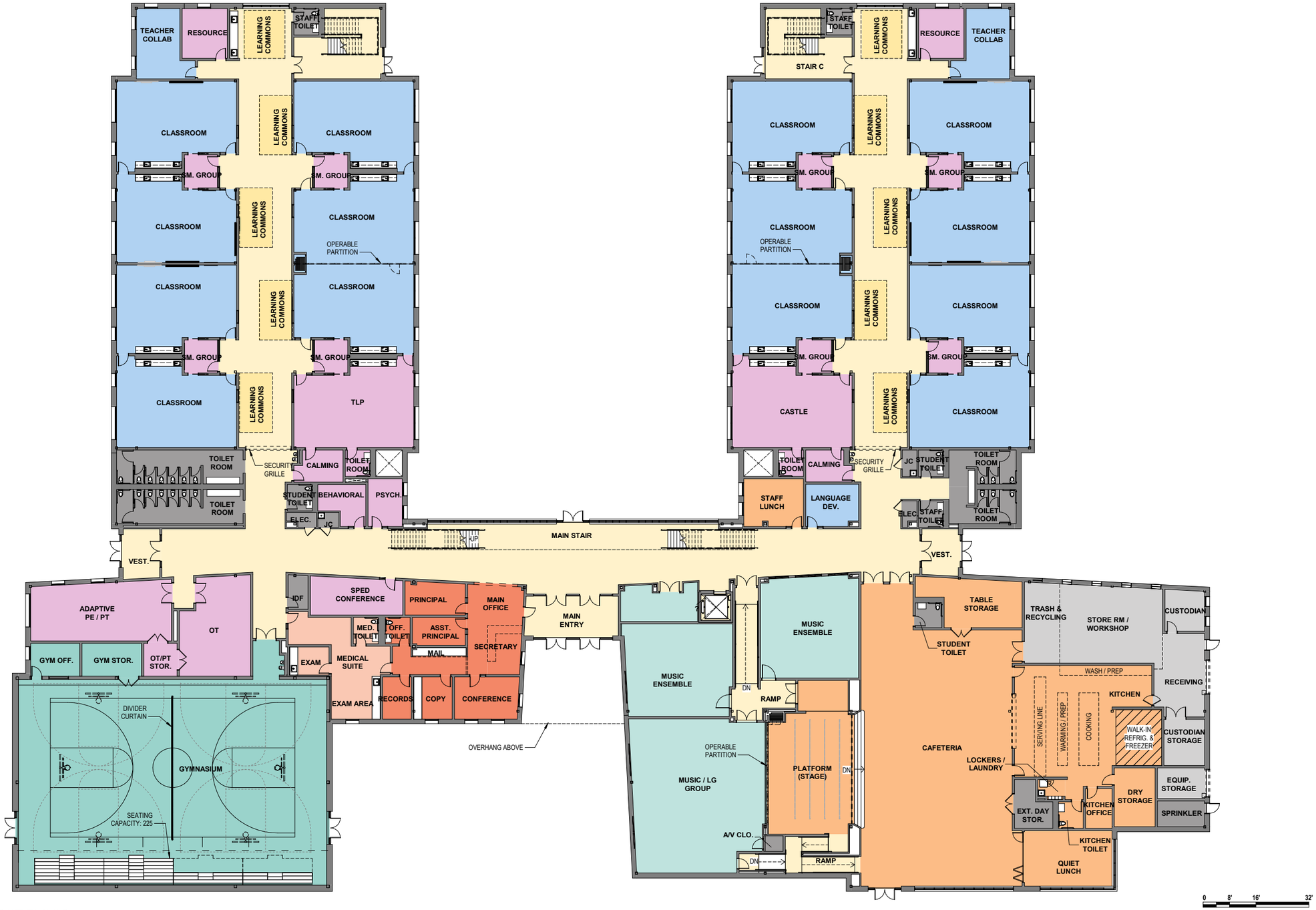
The building is organized into four neighborhood wings, streamlining the educational experience and providing future flexibility. Each grade neighborhood demonstrates a commitment to integration and equity, ensuring that students with diverse learning needs have easy access to resources. Locating Small Group rooms throughout neighborhoods further underscores the importance of providing comprehensive support services to all students.

MSBA PSR REVIEW COMMENTS

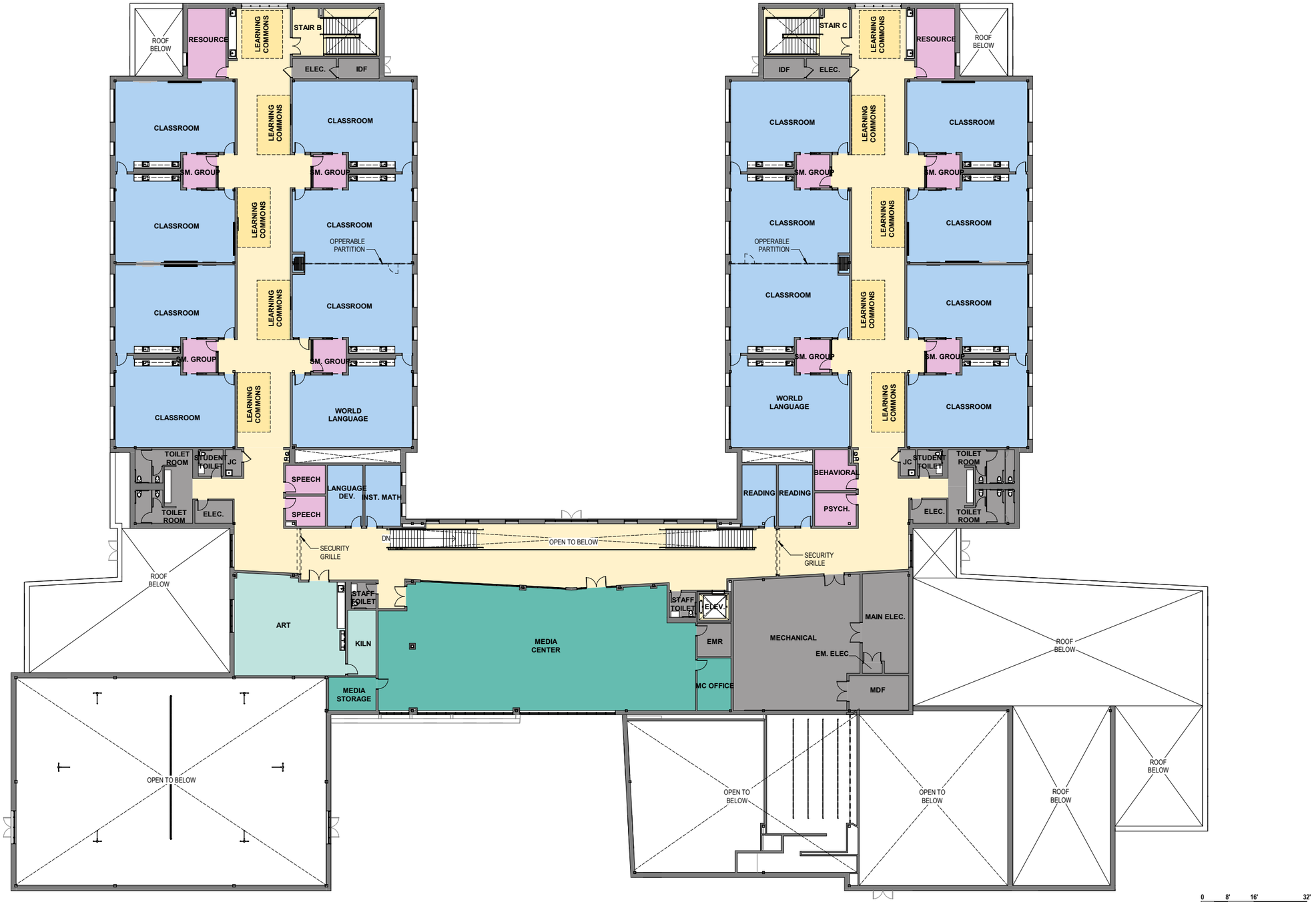
The MSBA Preferred Schematic Report comments were received on **October 29, 2024.** The District provided written responses to the MSBA comments on **November 13, 2024.**

See Appendix A, MSBA PSR Comments & Project Team Responses.

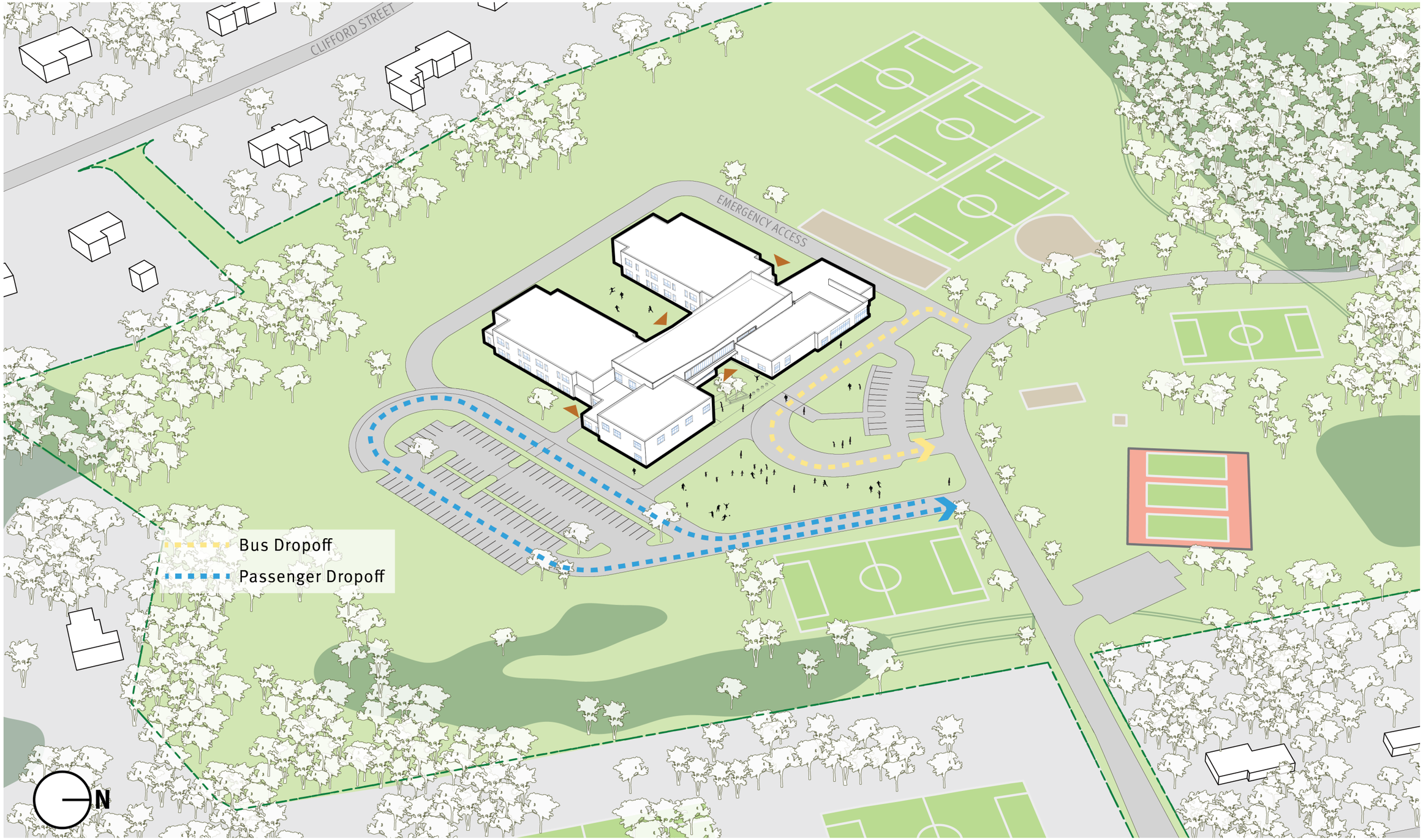
CONCEPTUAL LANDSCAPE SITE PLAN



PROPOSED PROGRAM PLAN - FIRST FLOOR



PROPOSED PROGRAM PLAN - SECOND FLOOR



SITE CONTEXT AND TRAFFIC FLOW DIAGRAM

MAIN ENTRY & ARRIVAL CONCEPT

EXTERIOR VIEW IN PROGRESS

EXTERIOR VIEW IN PROGRESS

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SCHEMATIC DESIGN PROGRAM

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Architectural Characteristics

A timeless, adaptable learning community that inspires growth, fosters connection, and stands as a proud cornerstone for generations to come.

The District and the design team have envisioned a learning environment that unites two existing school programs, allowing for an expansion of an already collaborative pedagogy. The primary factor driving the project design has been the desire to adopt the most flexible facility possible, in both academic program and use.

Flexible Efficiency

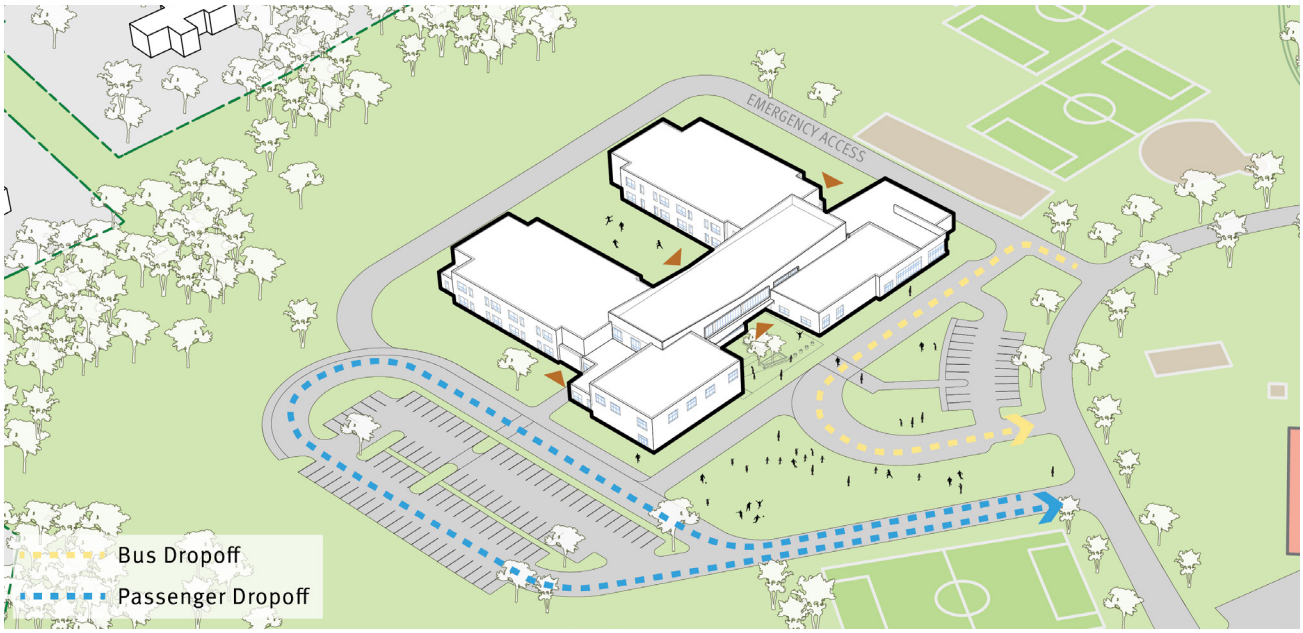
The architectural characteristics of the new Margaret A. Neary Elementary School are derived from the aforementioned flexibility, combined with deliberate attention to budget, school identity, learning neighborhoods, and community connection.

Early contextual studies of the site and surrounding area have focused on maintaining as much of the existing site integrity as possible. The building is nestled within wooded hills and vernal wetlands. Natural lawn and playing fields surround the building, and outline the constraints of usable land. The proximity to the wetlands and the soil conditions provided sufficient reasoning to build a new facility on the same location as the existing building. In maintaining the existing placement, the public-facing front of the building faces north, allowing for the utilization of diffused, northern light while the two classroom wings are oriented to the east and west.

The building features three distinct entry points, each designed to accommodate specific program needs while ensuring clear separation between public, parent, and bus traffic. This separation helps reduce the organized chaos for teachers and parents while maximizing safety for students, staff, and visitors.

The Main Entry, located at the center of the *Central Crossing*—the public wing of the school—provides direct access to the Main Office. This entrance is paired with a drop-off loop designated for bus and van traffic. While it is not intended for teacher, staff, or parent arrivals, it serves as the primary visitor entrance, conveniently accessible from an adjacent visitor parking lot.

A second entrance, situated on the building's west side, connects to a passenger vehicle drop-off lane adjacent to the staff parking lot. This entrance also accommodates after-hours access to the nearby Gymnasium.



BUILDING ENTRANCES AND SITE TRAFFIC DIAGRAM

The third entrance, on the east side of the public wing, serves as a connection for students moving between the Cafeteria and the playground or playing fields. During school hours, this entrance will remain locked and inaccessible to the public. Like all exterior entry points, it will only be accessible to staff and teachers using their credentials.

All vehicular traffic enters the site via the access drive off Parkerville Road that connects the existing Neary Elementary to the adjacent Trottier Middle School, which shares a portion of the property. Vehicular traffic is divided between bus and van traffic, and passenger car traffic. A paved loop around the back of the building provides auxiliary access for emergency vehicles, potential for overflow parking for special events, and access for larger maintenance and delivery vehicles.

The landscaping around the building is designed to punctuate the new facility, while leaving much of the existing site features intact. Carefully designed planting around traffic pathways provide screening and security at the main entrance and egress points around the building, while the rear courtyard is designed for safe, flexible use for gathering, outdoor learning, sheltered play. The courtyard is designed with low-maintenance materials and native planting to help keep operating costs low while ensuring a long-lasting, enriching space to serve students for years to come.

A Fresh Approach

Every school community has their own idyllic vision as to what their new school could be, and the Neary Building Committee envisioned a flexible learning facility that would help to consolidate two existing, 2-grade schools. The new configuration will provide a cost-effective solution to the current maintenance and upkeep of three school buildings, make bus routes more efficient, ensuring students spend less time on the bus, to and from school, and reducing bus-related traffic throughout the town, during operational hours.

The building further contributes to the future flexibility of the educational program by providing two, 2-story classroom wings; each wing housing (8) Classrooms, (4) Small Group Rooms, and (5) Learning Commons breakout areas per floor to allow the school to shift grade levels and *Learning Neighborhoods* as needed from year to year. This means that the school can opt for younger students to be located at the first level and older students at the second floor, or dedicate grade levels to one wing or the other, depending on the desired proximity to the Cafeteria or Gymnasium. Special, focused learning classrooms and spaces are located at the connection between the Learning Neighborhoods and the Central Crossing to maximize connectivity for students and staff accessing these spaces from different parts of the building. The two classroom wings surround the outdoor learning courtyard, accessed either at the end of each wing, or centrally near the base of the main staircase.

The two classroom wings are connected via the 2-story Central Crossing corridor that houses shared and public programs such as the main office, Gymnasium, Cafeteria, Music Classroom suite at the first floor, and the Art Room and Media Center at the second. Carefully placed security grilles allow for the school to limit access to the classroom wings during special events held during off-hours that would typically be open to the public.

The NBC expressed interest in allowing the new facility to have a more contemporary look and feel, rather than adhering to a particular historic language. Given this general direction with a need for an affordable, long-lasting building, it was decided that the most economical approach for the exterior construction would be that of masonry veneer with specialty materials only being used to emphasize special areas or programs.

From the Ground Up

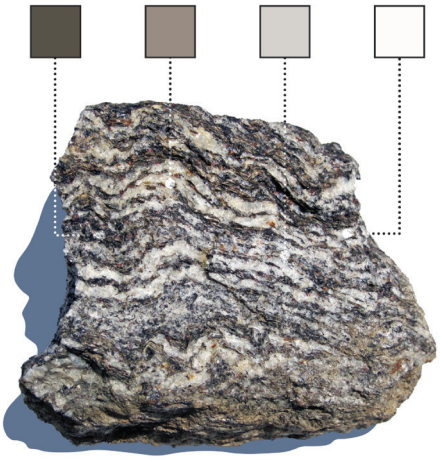
The challenge of creating a contemporary school using masonry meant that the design team had to explore alternatives to red brick and existing architectural or historic precedent and instead chose to borrow from local geology. An indigenous and abundant stone found throughout Southborough called *Calcareous Gneiss* served as design inspiration in both color and patterning of the masonry facades. It's color variation and striations allowed for the design team to create pattern and variation across the masonry facades that give them a dynamic complexity that punctuates the school against its natural, forested backdrop without introducing costly materials or construction methods.

Other exterior materials have been selected to emphasize certain areas of the building exterior or the programs within. At the three main entry and egress points, a panelized rain screen system is clad with wood-look phenolic panels to provide further connection to nature and natural materials as students arrive. This change in material will also serve as a way-finding feature to help guide first-time visitors.

The second floor of the Central Crossing is clad with a corrugated aluminum panel rain screen to indicate a feeling of "lightness" floating above the tectonic mass of the masonry facades throughout. This separation of material also contributes to the contemporary aesthetic and reduces the imposing effect of taller spaces such as the Gymnasium and Cafeteria, therein softening the public-facing side of the school building.

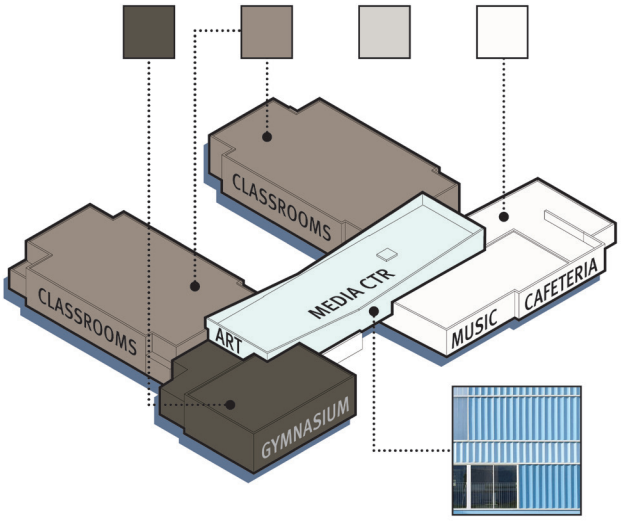
Windows and glazing have been placed to maximize the amount of natural light within classrooms and learning spaces. Large ribbons of glazing are utilized in more public areas such as the Central Crossing corridors, Cafeteria, and Media Center. Large, punched openings provide natural light for classrooms and admin areas and include operable vents to allow for fresh air during milder temperatures.

The school will also be designed with great attention to sustainability features including but not limited to a ground-source, geothermal heating and cooling system, a high-performance building envelope, triple-glazed, energy efficient glazing at all windows and curtain walls, and a fossil-fuel-free kitchen, utilizing electric equipment for the preparation of school meals. Waste material from both the demolition of the existing building as well as construction of the new will be sorted and recycled to the greatest extent possible.



Calcareous Gneiss
Indigenous Stone to Southborough

MATERIAL CONCEPT



MATERIAL/MASSING IDENTITY CONCEPT

Focal Point of School Design

The main focal points of the overall school design include:

- An efficient and flexible building that allows for programed areas to adapt to ever-changing educational needs.
- Clear, spacial identities of the four learning neighborhoods and the public programs connecting them.
- A cost-conscious, yet contemporary school facility that serves as an asset to both the District as well as the surrounding community for years to come.

Functional Relationships & Critical Adjacencies

The *Central Crossing* & Public Wing

The Central Crossing serves as the school's main thoroughfare, connecting classrooms with shared and public spaces. On the first floor, it is divided by the Main Entrance, with the Main Office suite on the left and the Music Classroom suite on the right. A wide, open pair of stairs lead to the second floor, while direct views and access to the outdoor learning courtyard create a welcoming arrival point.

Beyond the Main Office, students can easily reach the Gymnasium, OT and Adaptive PE/PT spaces, and the Medical Suite. Centrally located, the Medical Suite offers convenient access for parental pickup and is near the Gymnasium for handling minor injuries from PE class.

At the far end of the first floor, the Cafeteria and Kitchen serve students in three lunch seatings. The centrally placed Kitchen and Servery provide separate lines to accommodate different student needs. A Quiet Lunch space, designed for those with auditory sensitivities, can be opened or closed as needed and doubles as a meeting or conference space outside of lunch hours. The Cafeteria also features a raised platform with a proscenium and stage curtains, making it ideal for performances, assemblies, staff meetings, and community events.

On the second floor, the Central Crossing houses the Media Center at its core, with the Art Room to the left. Walking through this space feels like crossing a bridge, offering views of the learning courtyard below and the adjacent Media Center.

Designed to encourage social interaction and collaboration, the Central Crossing seamlessly connects grade levels and academic programs, fostering a strong sense of community within the school.

Music Room Suite

Music is a key part of the school curriculum. To support this, flexible Music Rooms are arranged together for easy use. A Large Group instructional room serves as the main space for music classes and orchestra practice, while two Ensemble Rooms provide additional breakout and practice areas.

These rooms are located behind the performance Platform in the Cafeteria, ensuring smooth transitions between instruction and performances. The Platform is accessible from both the Cafeteria and the Music Classroom Suite. A movable partition at the back connects it to the Large Group Music Classroom, allowing for flexible use of space and accommodating larger orchestral performances.

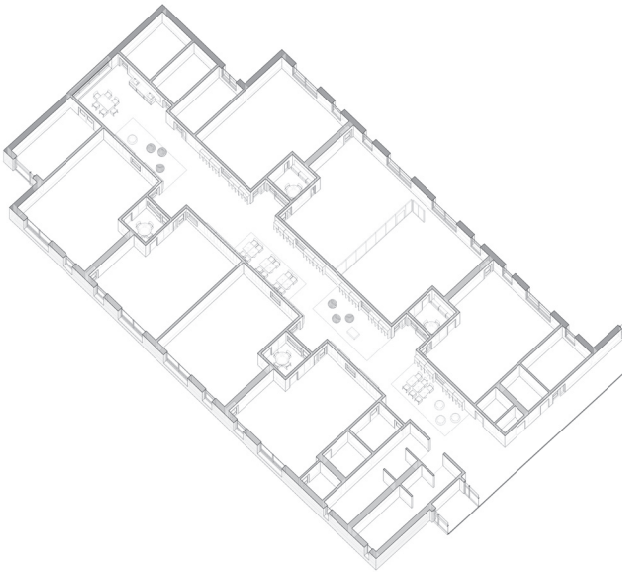
Adjacent to the Music Suite is an Instrument Storage space, which allows arriving students to conveniently and securely drop off their instruments before continuing to their classroom. This storage area also provides overflow storage for larger instruments used by the music program.

Learning Neighborhoods

A significant challenge in consolidating two separate school communities is fostering a unified identity that transcends the distinct characteristics of the former programs. The Neary Building Committee emphasized the importance of drawing from the unique strengths of both the Neary and Woodward Schools to develop a new, cohesive pedagogy.

One strategy to achieve this is by promoting flexibility across all four Learning Neighborhoods. Instead of rigidly dividing the school by grade levels, the design encourages a seamless transition between spaces and years. While individual classrooms are organized by grade, shared programs serve as a bridge, linking grades and age groups. The corridors within the Learning Neighborhoods are interspersed with Learning Commons—dynamic spaces designed to foster exploratory learning beyond the traditional classroom environment.

These shared spaces also encourage collaboration across grade levels by activating the commons with constant activity and engagement. Students are less likely to feel confined or hesitant to explore other areas of the school, as the vibrant environment promotes interaction. For example, multi-grade groups can engage in science and STEM activities, allowing teachers to share resources effectively while older students mentor and assist younger peers.



LEARNING NEIGHBORHOOD SPACIAL ADJACENCIES

LEARNING NEIGHBORHOOD CONCEPT

Media Center & Art

Central to the school at the second floor is the Media Center and adjacent Art Room. The proximity of these two spaces has been a core requirement to the envisioned learning program, intended to foster collaboration and discovery for all grade levels.

The Media Center serves as both a library for student use, as well as a multi-use instructional space, further expanding the breakout opportunities for specialized learning. The Media Center offers quiet reading and study space while providing tables for group work or activities and also serves as a place for faculty meetings and professional learning for larger groups of educators. The Media Center includes an office for the librarian and a Media Storage room.

The Art Room is a spacious, light-filled instructional area, well-equipped for students to unleash their creativity and get messy in the process, and a wide variety of pinup space is provided throughout to display mini masterpieces. A dedicated Kiln Room is provided with additional storage space for materials, and large, basin sinks with provided sediment traps will allow for cleanup of media from paint to plaster and clay.

Educational Program

After the PDP comments from the MSBA were received, the District made minor updates to the educational program to clarify items in MSBA comments. In addition, the MSBA issued Project Advisory 85 in December 2023 with updates to the Educational Program Requirements. Further edits, reorganization, and the integration of the Design Team's Design Response to each component of the educational program into a singular document has been undertaken to match up to these updated requirements. These design responses have been updated as the design has developed.

In addition to the written educational plan, the design team also met with teachers from the existing Neary, Woodward and Finn Schools to discuss the new design and some of the specific elements that they would like in their new space and these conversations have been reflected in the design. The Design Team anticipates that meetings with teachers and staff will continue into the next phases and will strive to provide a school that meets the needs of the students and staff.

Please refer to Appendix B: Educational Plan With Design Responses.

Space Summary

Changes since PSR:

- Speech & Language Office (Special Education) was split into two offices of equal size. In PSR phase it was a single space.
- Instrument storage was shown as two spaces in PSR but is now a single space.

Core Academic

The proposed project contains 32,400 SF of core academic space. This is 6,750 SF above the MSBA guidelines of 25,650 SF.

The existing building currently contains 7 classrooms per grade (14 general education classrooms), with class sizes averaging between 18-22 students.

For all general education classrooms, the number of classrooms per grade remains the same, but with a doubled student enrollment, the number of classrooms increases to (28) classrooms.

General Classrooms were reduced from 950 sf to 900 SF based on the understanding that some of the activities that were originally planned to occur in the classrooms can be better served in the adjacent Small Group rooms and Learning Commons in each classroom neighborhood and one Resource Room in each wing. Other classrooms such as World Language were also decreased to 900 sf for consistency across the building and for future flexibility. Small Group rooms will be provided with each pair of classrooms to align with the District's educational goals; allowing for more student interaction with specialists, increased student autonomy for small group and independent learning opportunities, and provide better flexibility for teachers and support staff.

There are no STEM classrooms in the program as there is no current or future plan for staffing these spaces. Science curriculum will be conducted in the general education classrooms and in the Learning Commons, which will be centrally located in each grade's Learning Neighborhood.

Special Education

The proposed project contains 6,640 SF of special eduction space, which is 910 SF below the MSBA guidelines of 7,550 SF.

This variation is due to the Educational Plan developed by the District, which includes (2) full-size, self-contained classrooms to accommodate both the CASTLE and TLP programs, within one space in each classroom wing, in lieu of the (5) spaces listed in the MSBA guidelines. These spaces include self-contained toilet rooms and will be grouped with and supported by secondary spaces such as Small Group Rooms, Resource Rooms, Calming Rooms, Speech and Language Offices, School Psychologist Offices, OT and PT/Adaptive PE rooms, Office Space for support staff, and space for team meetings and student/parent conferences. Many of these spaces will also be used for interventions with students as well as student testing.

This allotment of program space provides a net increase from the existing plan, in available, flexible learning spaces which allows specialists and Educational Support Professionals (ESPs) greater access to the students they support.

While it is not a change, it should be noted that Learning Commons are listed on the Space Summary as four spaces. Each space of 900 sf represents the total for a classroom wing.

Art & Music

The proposed project contains 4,750 SF of Art & Music space, which is 25 SF below the MSBA guidelines of 4,775 SF. This includes a single Art Room with Storage (one fewer than the MSBA guideline), and a single, Large Group Music Room with (2) Practice/Ensemble Rooms.

Health & Physical Education

The proposed project contains 6,300 SF of health & physical education space. This is in line with the MSBA guidelines of 6,300 SF. This includes a full sized gymnasium and support spaces.

Media Center
The proposed project contains 3,415 SF of Media Center space, consistent with MSBA guidelines.

Dining & Food Service
The proposed project contains 8,141 SF of dining and food service space, consistent with MSBA guidelines.

Medical
The proposed project contains 610 SF of medical space, consistent with MSBA guidelines.

Administration & Guidance
The proposed project contains 1,910 SF of administration and guidance space. This was reduced by 2,595 SF in the PDP and is 685 SF lower than the MSBA guidelines.

The reduced size is due to the removal of the Assistant Principal's office, Guidance Offices, and a reduction in size of the Principal's Office. Based on their operational needs, the District decided these spaces would be underutilized.

Custodial & maintenance
The proposed project contains 2,210 SF of custodial and maintenance space. This is consistent with MSBA guidelines of 2,210 SF.

Non-Programmed Space
The two spaces in this category include an Instrument Storage Room, and Extended Day Program Storage Room, totaling 450 SF of non-programmed space.

Gross and Net
The proposed project contains 66,376 SF of net space. This is 5,130 SF above the MSBA guidelines of 61,246 SF. This includes the following:

- Core academic spaces, such as the Learning Commons, World Language Rooms, and similar spaces that are not specifically addressed in the Space Summary Template.
- Special Education spaces not specifically addressed in the Space Summary Template.
- More Small Group rooms for breakout learning to support the District's Educational Plan.
- Enlarged Music Room to accommodate larger sized band and orchestra classes (up to 75 students) in support of the District's Educational Plan

The proposed gross square footage of the project is 99,564 GSF. This is 11,114 GSF more than the MSBA guidelines of 88,450 GSF.

SPACE MEASUREMENT ANALYSIS & CERTIFICATION

The Designer certifies that the total gross square footage of the current plans for the Neary Elementary School are consistent with the updated and revised MSBA space summary dated February 25th, 2025.

Level 1	60,776 SF
Level 2	38,788 SF
Total	**99,564 GSF**

Laurence Spang, AIA LEED AP
Principal
Arrowstreet Inc.

Proposed Space Summary - Elementary School

Date: 02/25/25 Schematic Design Submittal

Margaret A. Neary Elementary School Southborough, MA	EXISTING CONDITIONS			PROPOSED PROGRAM									VARIATION TO MSBA GUIDELINES			MSBA GUIDELINES (DO NOT MODIFY) (Refer to Educational Facility Planning for additional information)			
				EXISTING TO REMAIN / RENOVATED			NEW CONSTRUCTION			TOTAL									
ROOM TYPE	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	COMMENTS
CORE ACADEMIC			**14,340**			**0**			**32,400**			**32,400**			**6,750**			**25,650**	STE Guidelines Policy
(List rooms of different sizes separately)																			
General Classrooms	890	14	12,460			0	900	28	25,200	900	28	25,200	-50	1	-450	950	27	25,650	900 NSF (minimum size) - 1,000 NSF (maximum size); Minimum of (2) sinks required per General Classroom
Science, Technology, Engineering (STE) Room	1,000	1	1,000			0	1,080	0	0	1,080	0	0	0	0	0	1,080	0	-	1,080 NSF (minimum size); Refer to the 2018 STE Guidelines for additional information.
STE Storage Room (if applicable)			0			0	120	0	0	120	0	0	0	0	0	120	0	-	Minimum of (1) 120 NSF STE Storage Room required per STE Room; Refer to the 2018 STE Guidelines for additional information.
Learning Commons (breakout) - Total area per Grade Neighborhood			0			0	900	4	3,600	900	4	3,600	750	4	3,600				
English Language Development Office			0			0	200	2	400	200	2	400	200	2	400				
Instructional Suite (Reading, Math)	880	1	880			0	200	4	800	200	4	800	200	4	800				
World Language			0			0	900	2	1,800	900	2	1,800	900	2	1,800				
Health / Wellness Classroom			0			0	0	0	0	0	0	0	0	0	0				
Teacher Collaboration Room						0	300	2	600	300	2	600	300	2	600				
SPECIAL EDUCATION			**3,360**			**0**			**6,640**			**6,640**			**-910**			**7,550**	Special Education spaces require DESE review and approval.
(List rooms of different sizes separately)																			
Self-Contained Special Education Classroom			0			0	900	2	1,800	900	2	1,800	-50	-3	-2,950	950	5	4,750	900 NSF (minimum size) - 1,300 NSF; equal to the size of the proposed General Classrooms that serve the same student population.
Self-Contained Special Education Toilet Room			0			0	75	2	150	75	2	150	15	-3	-150	60	5	300	
Resource Room	1,110	1	1,110			0	200	4	800	200	4	800	-300	1	-700	500	3	1,500	1/2 size of a General Classroom
Small Group Room			0			0	100	15	1,500	100	15	1,500	-400	13	500	500	2	1,000	1/2 size of a General Classroom
Calming Room (adjacent to SCSEC)			0			0	120	2	240	120	2	240	120	2	240				
Speech & Language Office			0			0	200	1	200	200	1	200	200	1	200				
OT	495	1	495			0	500	1	500	500	1	500	500	1	500				
PT						0	600	0	0	600	0	0	600	0	0				
OT PT Storage						0	100	1	100	100	1	100	100	1	100				
PT / Adaptive PE	590	1	590			0	750	1	750	750	1	750	750	1	750				
Student Support Services	1,165	1	1,165			0	0	0	0	0	0	0	0	0	0				
Office (School Psych, Team Chair, Behavior Specialist)						0	150	2	300	150	2	300	150	2	300				
Small Group Room						0	200	0	0	200	0	0	200	0	0				
Testing spaces						0	100	0	0	100	0	0	100	0	0				
Special Ed Team Chair Office						0	150	0	0	150	0	0	150	0	0				
SPED Conference Room						0	300	1	300	300	1	300	300	1	300				
Public Day Education Spaces (List rooms separately below)																			
[Enter room type here]			0			0			0	0	0	0	0	0	0				
Collaborative Program Spaces (List rooms separately below)																			
[Enter room type here]			0			0			0	0	0	0	0	0	0				
ART & MUSIC			**4,055**			**0**			**4,750**			**4,750**			**-25**			**4,775**	
Art Classroom (25 seats)	1,000	1	1,000			0	1,000	1	1,000	1,000	1	1,000	0	-1	-1,000	1,000	2	2,000	Assumed schedule: 2 times per week per student
Art Workroom with Storage and Kiln			0			0	150	1	150	150	1	150	0	-1	-150	150	2	300	
Music Classroom / Large Group	1,895	1	1,895			0	1,800	1	1,800	1,800	1	1,800	600	-1	-600	1,200	2	2,400	Assumed schedule: 2 times per week per student
Music Ensemble	1,160	1	1,160			0	900	2	1,800	900	2	1,800	825	1	1,725	75	1	75	
Music Practice						0	150	0	0	150	0	0	-25	0	0	175	0	-	

HEALTH & PHYSICAL EDUCATION			**4,960**			**0**			**6,300**			**6,300**			**0**			**6,300**	Excess Physical Education Spaces Policy
Gymnasium	2,480	2	4,960			0	6,000	1	6,000	6,000	1	6,000	0	0	0	6,000	1	6,000	
Gym Storage			0			0	150	1	150	150	1	150	0	0	0	150	1	150	
Health Instructor's Office			0			0	150	1	150	150	1	150	0	0	0	150	1	150	
MEDIA CENTER			**2,590**			**0**			**3,415**			**3,415**			**0**			**3,415**	
Media Center / Reading Room (incl. office & storage)	2,590	1	2,590			0	3,415	1	3,415	3,415	1	3,415	0	0	0	3,415	1	3,415	
DINING & FOOD SERVICE			**5,000**			**0**			**8,141**			**8,141**			**0**			**8,141**	
Cafeteria / Dining	3,135	1	3,135			0	4,575	1	4,575	4,575	1	4,575	0	0	0	4,575	1	4,575	Based on 2 lunch seatings - 15 NSF per seat
Platform			0			0	1,000	1	1,000	1,000	1	1,000	0	0	0	1,000	1	1,000	
Chair / Table / Equipment Storage			0			0	403	1	403	403	1	403	0	0	0	403	1	403	
Kitchen	1,410	1	1,410			0	1,910	1	1,910	1,910	1	1,910	0	0	0	1,910	1	1,910	1,600 NSF for first 300 students + 1 NSF per additional student
Staff Lunch Room	455	1	455			0	253	1	253	253	1	253	0	0	0	253	1	253	20 NSF per student
MEDICAL			**440**			**0**			**610**			**610**			**0**			**610**	
Medical Suite Toilet			0			0	60	1	60	60	1	60	0	0	0	60	1	60	
Nurses' Office / Waiting Room	440	1	440			0	250	1	250	250	1	250	0	0	0	250	1	250	
Examination Room / Resting			0			0	100	3	300	100	3	300	0	0	0	100	3	300	
ADMINISTRATION & GUIDANCE			**1,900**			**0**			**1,910**			**1,910**			**-685**			**2,595**	
General Office / Waiting Room with Toilet	550	1	550			0	455	1	455	455	1	455	0	0	0	455	1	455	
Teachers' Mail and Time Room			0			0	100	1	100	100	1	100	0	0	0	100	1	100	
Copy Room			0			0	150	1	150	150	1	150	0	0	0	150	1	150	
Records Room			0			0	110	1	110	110	1	110	0	0	0	110	1	110	
Principal's Office	180	1	180			0	200	1	200	200	1	200	-175	0	-175	375	1	375	Conference room shared with Asst Principal
Secretary			0			0	125	1	125	125	1	125	0	0	0	125	1	125	
Assistant Principal's Office			0			0	120	0	0	120	0	0	0	-1	-120	120	1	120	
Supervisory / Spare Office			0			0	120	1	120	120	1	120	0	0	0	120	1	120	
Conference Room	390	1	390			0	250	1	250	250	1	250	0	0	0	250	1	250	
Guidance Office	210	1	210			0	150	0	0	150	0	0	0	-2	-300	150	2	300	
Guidance Storeroom			0			0	35	0	0	35	0	0	0	-1	-35	35	1	35	
Teachers' Work Room	570	1	570			0	100	4	400	100	4	400	-355	3	-55	455	1	455	
CUSTODIAL & MAINTENANCE			**1,949**			**0**			**2,210**			**2,210**			**0**			**2,210**	
Custodian's Office						0	150	1	150	150	1	150	0	0	0	150	1	150	
Custodian's Workshop	1,378	1	1,378			0	375	1	375	375	1	375	0	0	0	375	1	375	
Custodian's Storage	571	1	571			0	375	1	375	375	1	375	0	0	0	375	1	375	
Recycling Room / Trash			0			0	400	1	400	400	1	400	0	0	0	400	1	400	
Receiving and General Supply			0			0	**303**	1	303	303	1	303	0	0	0	303	1	303	
Storeroom			0			0	**407**	1	407	407	1	407	0	0	0	407	1	407	
Network / Telecom Room			0			0	200	1	200	200	1	200	0	0	0	200	1	200	

OTHER			**555**			**0**			**0**			**0**			**0**			**0**	
(List rooms separately below)																			
			6,135																
Extended Day Program Office			0			0	200	0	0	200	0	0	200	0	0				
						0						0							
District Office	5,465	1	5,465			0			0	0	0	0	0	0	0				
District Office Storage	490	1	490			0						0							
Office	180	1	180			0						0							
Quiet Corner	125	1	125			0						0							
After - School	250	1	250			0						0							
Zen Den	180	1	180			0			0	0	0	0	0	0	0				
Total Building Net Floor Area (NFA)			**39,149**			**0**			**66,376**			**66,376**			**5,130**			**61,246**	**Total Building Net Floor Area (NFA)**
Proposed Student Capacity / Enrollment																# of Grades	4	**610**	**Total Enrollment (Enter Design Enrollment)**
																K	0	**0**	Kindergarten Enrollment
																Grade 1	0	**153**	Lower Elementary School Enrollment (Grades 1-2)
																Grade 2	1	**458**	Upper Elementary School Enrollment (Grades 3-6)
																Grade 3	1		
																Grade 4	1		
																Grade 5	1		
																Grade 6	0		
NON-PROGRAMMED SPACES					% of GFA	**0**		% of GFA	**33,188**		% of GFA	**33,188**							Complete this category with Schematic Design Submittal
Other Occupied Rooms (List rooms separately below)																			
Instrument storage			0			0	300	1	300	300	1	300	125	1	300	175	0	-	
Extended Day Program Storage			0			0	150	1	150	150	1	150	150	1	150				
Unoccupied MEP / FP Spaces				-	#DIV/0!		-	0.0%		-	0.0%	0							
Unoccupied Closets, Supply Rooms, and Storage Rooms				-	#DIV/0!		-	0.0%		-	0.0%	0							
Toilet Rooms				-	#DIV/0!		-	0.0%		-	0.0%	0							
Circulation (corridors, stairs, ramps and elevators)				-	#DIV/0!		-	0.0%		-	0.0%	0							
Remaining[3]			23,607	-	#DIV/0!	**0**	-	32.9%	**32,738**	-	32.9%	**32,738**							
Total Building Gross Floor Area (GFA)[2]			**62,756**			**0**			**99,564**			**99,564**			**11,114**			**88,450**	**Total Building Gross Floor Area (GFA)[2]**
Grossing Factor (GFA / NFA)			**1.60**			**#DIV/0!**			**1.50**			**1.50**			**0.06**			**1.44**	**Grossing Factor (GFA / NFA)**

[1] **Individual Room Net Floor Area (NFA)** Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

[2] **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls.

[3] **Remaining** Includes exterior walls, interior partitions, chases, and other areas not listed above. Do not calculate this area, it is assumed to equal the difference between the Total Building Gross Floor Area and area not accounted for above.

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts School Building Authority to the best of my knowledge and belief. A true statement, made under the penalties of perjury.

Name of Architecture Firm: Arrowstreet Inc.

Name of Principal Architect: Laurence Spang, AIA LEED AP

Signature of Principal Architect:

Date: 02/25/25

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Instructional Technology

Current

The Margaret A. Neary Elementary School currently strives to integrate technology into classroom instruction. Technology plays a vital role in teaching and learning across all grade levels in both general education classrooms and special education programs.

Most classrooms are equipped with a wall-mounted projector, a cart-situated projector, or a non-interactive, flat screen display. Some classrooms have document cameras and/or sound amplification devices. Additionally, Chromebooks are available to all students in a 1:1 setting.

The current facility poses challenges with Wi-Fi coverage due to limited existing cabling infrastructure and insufficient power receptacles, hindering the effective use of instructional technology.

Proposed

As part of the new building construction, each classroom will receive either a short-throw projector or an interactive touch panel display, a classroom sound amplification system, a document camera, and a dedicated wireless access point. The facility will also feature an adequate number of power outlets to support both infrastructure and end-user device needs.

Integrating advanced technology into elementary classrooms enhances both teaching and learning by fostering an interactive and engaging educational environment. Short-throw projectors or interactive touch panel displays will enable teachers to present dynamic lessons incorporating visual and multimedia elements, catering to diverse learning styles. A classroom sound amplification system will ensure that all students, regardless of their seating position or hearing ability, can clearly hear instruction, improving focus and comprehension.

Document cameras will provide opportunities for real-time demonstrations, allowing students to showcase their work, model problem-solving strategies, and facilitate hands-on activities with the entire class.

Reliable, wireless access will support the integration of digital resources, adaptive learning tools, and collaborative platforms, fostering 21st-century skills such as critical thinking and communication. Additionally, ample power outlets will accommodate modern device usage, ensuring seamless access to technology that enhances learning and prepares students for future academic and career opportunities.

Technology integration will extend beyond core classrooms into support spaces such as the Media Center, Art Room, Music Rooms, and Platform, as well as shared assembly spaces like the Gymnasium and Cafeteria.

Security & Visual Access Requirements

District Specific Protocols

Security design is an ongoing conversation as the design continues to develop. Temporary conditions and protocols also will be further explored. These reports are considered to be confidential and not subject to Freedom of Information Act requests.

Refer to Appendix C: Proposed Security Narrative for the full security report prepared by Pamela Perini Consulting (PPC).

Alternative Entries

The building is designed with several alternative entries intended to facilitate student entry at the start of the school day and departure at the end of each day, that relate to arrival points to the site. The primary entrance during pick up and drop off for students arriving by bus or van will be the Main Entrance facing the entry drive from Parkerville Road. There is a separate, designated entry drive for passenger cars with a lengthy queuing lane, a pull-over lane and a sidewalk to provide a safe drop-off zone. These students would enter through a secondary entrance with a secure vestibule that will be open during drop off but will otherwise be locked. locked before and after drop off times. All visitors during the school hours will be directed to the Main Entrance at the front of the building where there are 20 visitor parking spaces provided.

All doors will be provided with card readers for staff and emergency personnel access. Doors will be numbered in accordance with Southborough Police and Fire Department protocol.

Main Entrance Design

As noted above, all alternative entries will lock after students have entered the building for the school day. There will be a secure vestibule at the main entrance to the school. The outer layer (exterior side) of the vestibule will be controlled through Electronic Access Control with Video Intercom for screening of visitors. Once a visitor is granted access to the vestibule, the inner layer will remain locked, as a "man trap" for further vetting. The vestibule will contain a pass through window for the delivery of items. Visitors will be allowed into the main office once a staff releases the locked door between the vestibule and Main Office. From the Main Office, they can be released into the remainder of the school.

Classroom Lockset Hardware

The Design Team will continue to meet with District security personnel to confirm that the design is in compliance with District policies. It is anticipated that classroom locksets will be Intruder function, and locked from the exterior.

Hardware at Courtyard doors into the building will have to be carefully considered to find an optimal balance of security, training, and access control.

Classroom Visibility

Instructional spaces have been designed to balance the District's desire for open and inviting classroom spaces with the need for security and places to shelter. Every classroom has been designed with a blind spot from the entry door and sidelights to ensure a safe room.

Optimal Surveillance

The project design will contain both interior and exterior cameras for both the final and temporary conditions to ensure optimal surveillance of the site during construction, as well as in the final design.

Site Development Requirements

Parking

The School is required to have one parking space per staff member, according to Town bylaws. The school employs roughly 25 teachers per grade and the proposed site plan includes 114 parking spaces, including the visitor parking at the front of the building.

Tree Protection & Tree Replacement

There are no requirements for protection of trees. The landscape design includes the planing of new trees along the entry drive, in the parking islands and along the emergency access drive at the rear of the building.

RECEIVED

NOV 15 2024

MASS. HIST. COMM.

RC.75890

APPENDIX A MASSACHUSETTS
HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD
BOSTON, MASS. 02125
617-727-8470, FAX: 617-727-5128

PROJECT NOTIFICATION FORM

Project Name: Margaret A. Neary Elementary School

Location / Address: 53 Parkerville Rd

City / Town: Southborough, MA

Project Proponent

Name: The Public Schools of Northborough and Southborough C/O Gregory L.Martineau, Superintendent

Address: 53 Parkerville Rd

City/Town/Zip/Telephone: Southborough, MA, 01772 (508)-486-5115

Agency license or funding for the project (list all licenses, permits, approvals, grants or other assistance required from state and federal agencies).

Agency Name	Type of License or funding (specify)
MSBA	School Construction Grant
MassDEP	Public Water Supply
MEPA	ENF Certificate
EPA	NPDES General Permit for Construction Activities
Mass Save	Utility Incentives

After review of MHC files and the materials you submitted, it has been determined that this project is unlikely to affect significant historic or archaeological resources.

RC. 75890

11/19/24

Joshua Dorton
Preservation Planner
Massachusetts Historical Commission

Date

Project Description (narrative):
The project includes options for the addition/renovation of the existing Margaret A. Neary Elementary School or the construction of a new grades3-5 or grades 2-5 school on the existing Neary school site. The existing building shares a parcel of land with the Trottier Middle School to the north. The addition/renovation or new building will provide educational program of the Margaret A. Neary Elementary School and the Albert S. Woodward School in an approximately 121,067 sf (grades 2-5) or 100,200 sf (grades 3-5)facility at 53 Parkerville Rd in Southborough, MA. The project includes new building construction, possible demolition and abatement of the existing building; and construction of access drives, parking, playing fields, and associated site work.

Does the project include demolition? If so, specify nature of demolition and describe the building(s) which are proposed for demolition.
Yes. The project includes the potential demolition of the existing school. The existing building is a modern single-story brick exterior, concrete framed building constructed in 1970.

See section IV. Existing Building Photos for photographs of the existing building. It has a number of accessibility issues, building systems are outdated and nearing the end of their useful life, and the building configuration needs improvement to meet the educational vision of the District. The Town of Southborough would also like to consolidate their elementary school buildings to reduce the number of transitions for the students as they progress through elementary school and reduce the transportation constraints on the district and families.

Does the project include rehabilitation of any existing buildings? If so, specify nature of rehabilitation and describe the building(s) which are proposed for rehabilitation.

Should the district choose to move forward with the addition/renovation option, rehabilitation of the existing building would occur to comply with accessibility regulations and provide spaces to meet the new educational programming needs of the school. No rehabilitation of the existing building will occur if the district moves forward with the new construction option.

Does the project include new construction? If so, describe (attach plans and elevations if necessary).

Yes. The project includes the construction of a new consolidated school or an addition to the existing school building that will accommodate the students of the existing Margaret A. Neary Elementary School and the existing Albert S. Woodward School. The 1 or 2 story building will be approximately 121,067 sf (grades 2-5) or 100,200 sf (grades 3-5) and will consist of classrooms and community spaces (gymnasium, cafeteria, auditorium, etc.)

The project has been accepted into the Massachusetts School Building Authority Capital Funding Program.

APPENDIX A (continued)

To the best of your knowledge, are any historic or archaeological properties known to exist within the project's area of potential impact? If so, specify.

The Margaret A. Neary Elementary School is not listed in the State Inventory of Historic Assets of the Commonwealth. Neither is it located within the Southborough Center Historic District.

MHC Maps revealed no Prehistoric Archaeological Assets of the Commonwealth mapped in the project site location. The site and the playing fields were substantially rebuilt in 1970 as part of the construction of the existing buildings, so no archaeological resources are anticipated to be affected.

What is the total acreage of the project area?

Woodland	29	acres	Productive Resources:		
Wetland	11.6	acres	Agriculture	0	acres
Floodplain	16.94	acres	Forestry	0	acres
Open space	40	acres	Mining/Extraction	0	acres
Developed	10.37	acres	Total Project Acreage	81	acres

What is the acreage of the proposed new construction? 2.77 acres

What is the present land use of the project area?

Education – Elementary School

Please attach a copy of the section of the USGS quadrangle map which clearly marks the project location.

This Project Notification Form has been submitted to the MHC in compliance with 950 CMR 71.00.

Signature of Person submitting this form: Laurence Spang Date: 7/12/2024

Name: Arrowstreet C/O Laurence Spang, Partner

Address: 10 Post Office Square, Suite 700 N

City/Town/Zip: Boston, MA 02109

Telephone: 617. 623.5555

REGULATORY AUTHORITY

950 CMR 71.00: M.G.L. c. 9, §§ 26-27C as amended by St. 1988, c. 254.

Traffic Analysis

At the existing Neary building, all traffic arrives at the building from the access drive off Parkerville Rd. Car and buses both turn left into the parking lot and split into separate drive lanes. Cars enter to the right near the front entrance. Buses continue along the outer lane, loop around behind the building, and drop off at the basketball court to the north of the existing modular classroom. See diagram on previous page.

The District reported conflicts from the current circulation routes at the intersection of the departing cars and incoming buses as well as from teachers and staff crossing the parking lot.

The proposed site improvements will seek to alleviate conflicts by providing separate lanes for bus and car traffic and to increase efficiency and improve safety for walkers and bikers who access the school by utilizing the sidewalks along Parkerville and the access drive.

Refer to Appendix D: Preliminary Traffic Analysis for the previously completed traffic analysis by MDM.

Code Analysis

Code Red Consultants has reviewed the project and prepared a code report. The proposed Neary Elementary School will be designed according to all applicable codes and regulations. This Schematic Design submission includes a code summary and code approach drawings, that outline the approach to building and accessibility code compliance, on sheets G0.02 & G0.03. Approval from the local Authorities Having Jurisdiction (AHJ) regarding posting of occupancies on the second floor is required.

A plumbing variance may need to be sought for the use of water closets in lieu of urinals at group bathrooms. The design team understands that this is a common variance to approve.

Please refer to Appendix E: Code Report & Analysis for the full code report.

Geotechnical & Geo-environmental Analysis

PRELIMINARY SUBSOIL ASSESSMENT

On April 15,2024, Lahlaf Geotechnical Consulting performed (4) borings to investigate the subsurface soil conditions of the site. The boring locations were identified based on the potential location for a new building located on the adjacent athletic field. This preliminary round of borings is intended to highlight the major soil strata. Additional borings will be performed during subsequent phases of the project.

Existing conditions include the following strata:

- The sampled topsoil ranged between 0.8 and 1.2 feet in depth.
- A layer of fill was encountered beneath the topsoil at the two borings in the play field north of the school. The fill at these locations extended to depths of about 6 feet beneath the ground surface. The samples in this layer were described as mostly silty sand.
- A third sample location on the southwest of the play field encountered subsoil at 2 feet below the ground surface and is described as poorly graded sand with silt. These initial borings indicate that the infilled soil will need to be removed to a depth of approximately 6 feet and replaced with structural fill to support any new construction. Topsoil should be removed from the entire construction area, including the building footprint and the paved areas. Sampled soils show that the soil is less than RCS-1 criteria and does not show any detection for pesticides, herbicides, gasoline and/ or diesel.

Through discussions with the Neary Building Committee, and due to the high cost of removing large amounts of soil, the proposed location of new construction has shifted to coincide with the location of the existing Neary School building.

Since the initial borings were located on the area of the current play fields, and to have a better understanding of the geo-technical subsoil conditions in the new location, additional borings have been scheduled to be performed on August 22. For full report, refer to Appendix F: Geotechnical Report.

SITE DRAINAGE

The existing site drainage system was installed during the original building construction. Two drain lines run on either side of the building and extend to two existing outfalls in the adjacent streams to the north and east of the school.

The District reported localized flooding near the catch basins in the pavement to the south and northwest of the building after storm events, suggesting the existing drainage system is under-performing and may be damaged or in need of cleaning. Additional explorations will be scheduled in the next phase of the project. It is anticipated that the proposed project will install an all-new site drainage system.

GEO-ENVIRONMENTAL ANALYSIS

During the Preliminary Design Program (PDP) phase, an Environmental Site Assessment (ESA) was conducted for the property by PEER Engineering. No detectable amounts were found of VOC's, SVOC's,or miscellaneous /biological elements. Metals, PCB's TPHs, pesticides, herbicides were all within acceptable thresholds.

Refer to Appendix G: Geo-envionmental Analysis for a copy of the full report.

EXISTING BUILDING ASSESSMENTS

No additional testing of the existing building occurred since the Preferred Schematic Report. All necessary hazardous materials testing occurred at the PDP phase.

Utility Analysis

Green International Affiliates, Inc. (Green), has developed the schematic design for the preferred design option. The preferred design option involves demolishing the existing Neary Elementary School building and installing a new building in a similar location. This option changes the building shape to a "u-shape" instead of a rectangular shaped building. There will be parking on the east, northeast, and north sides of the building. The parking for the site includes approximately 125 spaces. The proposed layout includes two looped drop-off areas, a parent drop-off in the front and a bus drop-off looping around the building. The building and parking lot reconfiguration associated with this option requires reconstruction of the site utility infrastructure. This option includes 610 students and 100 staff members for a total of 710 occupants.

The following sections provide a general overview of the necessary construction components for the corresponding site.

Water

Municipal water services the existing school. Based on record documents provided by AST, there is an existing 8" asbestos cement water main that loops around the west side of the building. The water main runs southwest and connects to the municipal within water main on Clifford Street. The existing 8" water main also appears to continue eastward along the school driveway towards Parkerville Road. According to the records, there are two hydrants located within the school property to the northeast and southwest of the existing Neary School building.

The new water main will be an 8" cement lined ductile iron pipe. There will be a fire protection service line and domestic water line feeding the building off the 8" water main. Hydrants will be provided every 500 feet and will be coordinated with the fire department. The new building will conflict with the existing main. Since there is a conflict with the building, it is anticipated that a new water main will be installed within the limit of work connecting to the existing main within the driveway and to the existing main behind the building. The new water main will follow the proposed roadway looping around the east and south side of the building. The new water main will also provide a new connection to the existing main that continues up the driveway toward the high school.

The assumed quantities needed for the water upgrades include:

- 790 LF of 8" CLDI water main to loop around the building to tie into existing mains at the driveway and back of the building
- (1) New Hydrant
- 20 LF of 6'' CLDI water connection to the Hydrant
- 100 LF of 4" CLDI domestic water connection to school
- 95 LF of 8" CLDI fire water connection to school
- (11) Water Gate Valves
- 25 LF Removal of Asbestos Cement pipe

Wastewater

The existing building discharges wastewater out of the southwest side of the building. The existing wastewater system includes 15,000-gallon septic tank, fast filtration unit, 10,000-gallon pump chamber, and a leach field. The existing leach field was designed for 522 people. The existing system is almost 30 years old and is reaching the end of its anticipated operating life span. Therefore, the existing system will be replaced under the proposed conditions.

The proposed wastewater system is based on 710 occupants. It is assumed that there will be a cafeteria and a gym.

The assumed quantities needed for the wastewater system upgrades include:

- 6,000-gallon grease trap (assume cafeteria, gym, 710 occupants)
- 15,000-gallon septic tank - 2 compartment (710 occupants)
- Fast Filtration Unit with piping and blower unit
- 10,000-gallon pump station with submersible duplex pumps, valve manhole, vent, and power
- 425 LF 4" SDR-26 Force main
- 70 LF 4" Sch 80 PVC
- 100 LF 6" Sch 80 PVC
- 21,515 sf Leach Field (710 occupants)
- (3) Sewer manholes
- Removal of existing 15,000-gallon septic tank, fast filtration unit, and, 10,000-gallon pump chamber.
- Abandon existing leach field and piping.

Stormwater

According to record information provided by AST, the existing drainage system collects stormwater via catch basins at low points throughout the site. Stormwater travels through 6" to 30" pipes, consisting of several materials including Vitrified Clay (VC), Reinforced Concrete Pipe (RCP), and Corrugated Metal Pipe (CMP). Most of the existing drainage infrastructure is collected and routed northeast of the school, which discharges from 30" RCP pipes at a headwall into a drainage ditch. The drainage ditch appears to be hydraulically connected to the existing skating pond via concrete weir. It appears that stormwater overflow travels northward along the existing channel.

A new closed drainage system is anticipated to accommodate the proposed parking and building layout. The closed drainage system will collect runoff from the proposed parking areas and from the roof drains for the building. The proposed closed drainage system will follow existing drainage patterns and discharge to the existing drainage system within the existing driveway. The existing site does not have any stormwater best management practices (BMPs) to provide stormwater treatment. The proposed project will result in a net increase in impervious areas. Therefore, stormwater BMPs will be proposed to mitigate peak rates and provide stormwater treatment. The following is a summary of the stormwater BMPs we anticipate for the project.

For the closed drainage system, we anticipate providing deep sump catch basins with hoods. These catch basins will achieve 25% TSS removal when installed offline instead of basin-to-basin connections. This TSS removal can be used to meet our pretreatment goals. The deep sumps and hoods provided in each catch basin will help to remove trash, debris, and sediment from stormwater runoff.

We anticipate providing two subsurface chamber systems and a rain garden for stormwater treatment. This consists of underground chambers that are designed to temporarily store stormwater. The site has a high groundwater table, which may not allow groundwater infiltration. Therefore, it is assumed that the chamber system will be lined with an underdrain. The chamber system will provide peak rate mitigation and stormwater treatment. The stormwater management system will have an outlet control structure which will include a manhole with a weir to control peak rates.

We anticipate providing water quality structures (WQS) for pretreatment. The WQS are proprietary hydrodynamic separators that can provide over 80% TSS removal. These units will be used to provide pretreatment for stormwater before entering the proposed subsurface chamber systems.

The proposed conditions will result in 60,900 sf of building area and 167,100 sf of paved areas. We anticipate a subsurface chamber system to be located under the parking lot east of the building. This subsurface system will require an approximate volume of 25,400 cf. We anticipate a second subsurface chamber system under the parking lot north of the building. This subsurface system will require an approximate volume of 12,00 cf. The volume is assumed that the subsurface chamber systems will need to provide at least 1-inch times the total post construction impervious area to meet water quality requirements. The subsurface chamber system will also be used for peak rate mitigation. Therefore, to be conservative, we approximate the storage to be approximately two times the water quality volume.

Due to the high groundwater table, underslab piping may be required. Coordination with the MEP and the structural engineer will be required.

The assumed quantities needed for the stormwater upgrades include:

- 11-15 Drainage Manholes
- 15-20 Catch Basins
- 3-5 Double Catch Basins
- (3) Water Quality Units
- (2) Outlet Control Structures
- 2,200 LF 12” HDPE drain lines
- 50 LF 18” HDPE drain lines
- 5 LF 30” HDPE drain lines
- 2,000 LF under slab piping
- Two subsurface chamber systems with storage of 25,400 cf and 12,700 cf
- Rain Garden
- Removal/abandon of existing drainage system within the limit of work.

Electrical/Gas

According to records provided by AST, the existing electrical infrastructure is located east and north of the school, serviced by a connection to Clifford Street via combination of overhead wires and underground electric. There is a gas main that runs parallel to the northbound and eastbound driveways. The records do not indicate the gas main size, material, or connection point to the school building.

New electrical and gas service will need to be provided for the new building. We defer the MEP for scope of gas and electrical requirements for the building.

The project intends to achieve the Electric Vehicle LEED credit. This requires installing electrical vehicle supply equipment for 5% of all parking spaces. This results in 6 electrical vehicle parking spaces.

Septic System

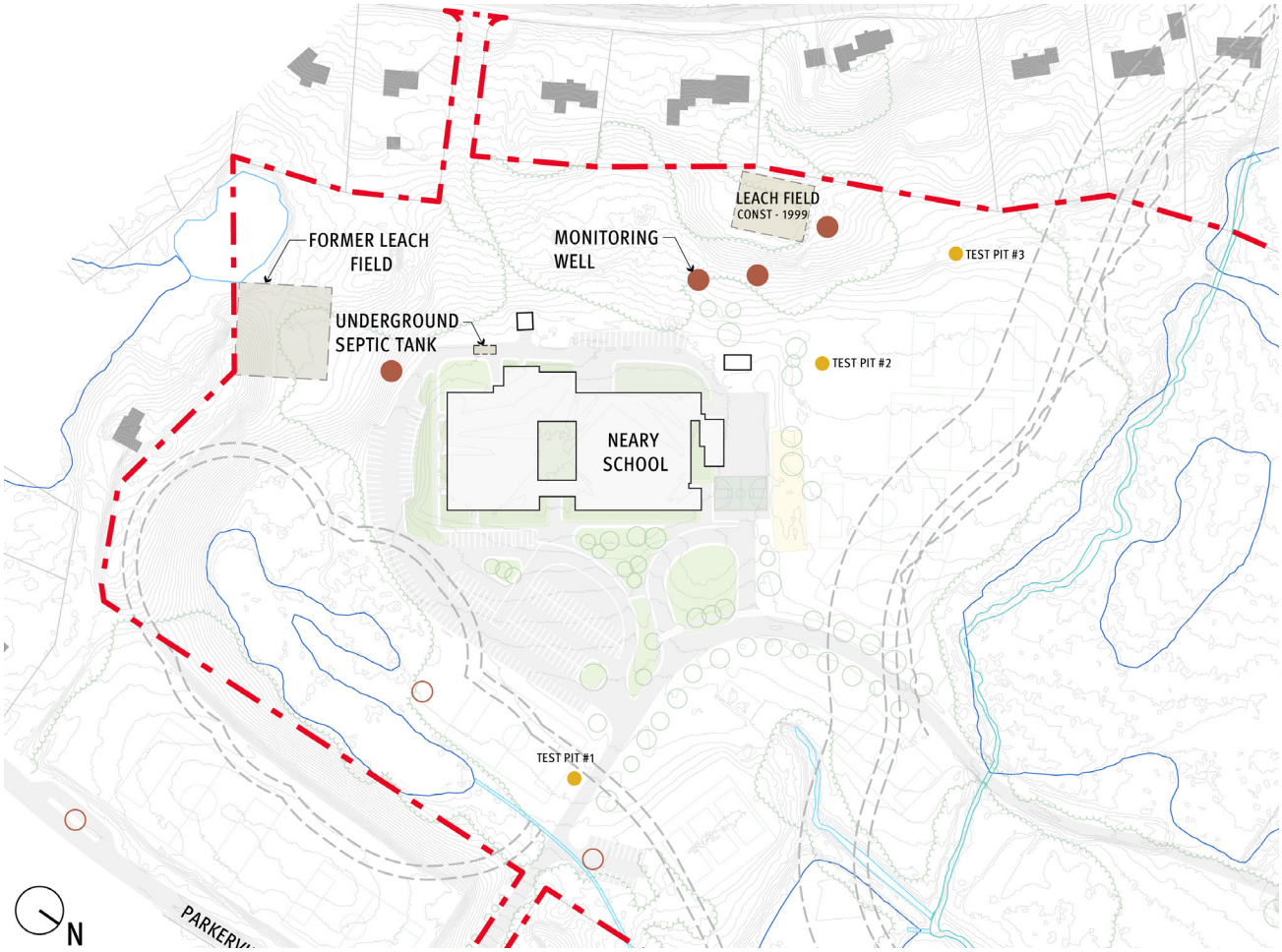
The original building septic system and leach field was located to the south of the existing building.

The septic system was replaced in 1997 and a new leach field was constructed to the west of the building on an elevated slope and a new tank was constructed adjacent to the existing tank. This system is approaching the end of usable service so it is likely that a new leach field will need to be constructed.

In anticipation of a new septic system and leaching field, percolation tests were performed at three locations on July 24, 2024 by McCarty Companies. The pits were dug by the DPW and the testing was witnessed by the local sanitation inspector.

Two of the test pits received passing percolation results (#2 and #3 in the diagram below). Test pit #1 revealed fill material and groundwater was present where it transitioned to native soil, so a percolation test was unable to be performed. Due to the presence of high groundwater, the area around pit #1 is not viable for a new leaching field.

Please refer to Appendix H: Soil Percolation Test for a copy of the full report.



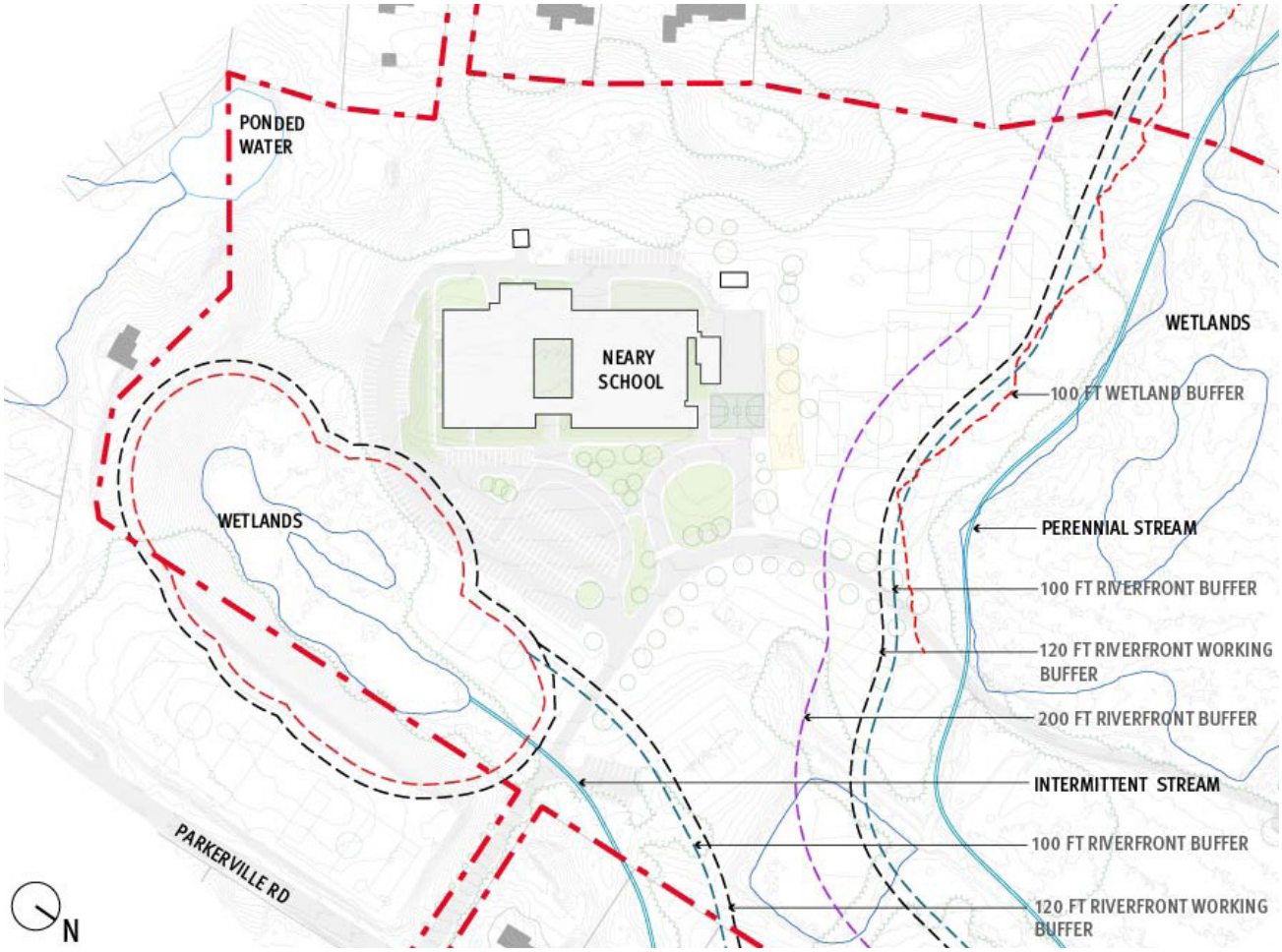
TEST PIT LOCATIONS AND EXISTING SEPTIC & LEACH FIELD LOCATIONS

ENVIRONMENTAL IMPACTS & PERMITTING REQUIREMENTS

The site is located in an urban residential area and has adjacent wetland areas. The site is not located within a 100-year Flood Zone according to the FEMA Flood Map. The project site is not located within any areas designated as an Estimated Habitat of Rare Wildlife and a Priority Habitat of Rare Species by the Natural Heritage & Endangered Species Program (NHESP). Land disturbance is anticipated to be greater than an acre and would require a local Stormwater Management Permit. In addition, any new drainage connections proposed to the municipal system would require a local Drain Permit.

The design team including Civil and Geo-Environmental Engineers performed a review of the State Site Permit Tracking Worksheet and found that there are no MEPA Triggers for this site.

See Appendix I: State Site Permit Tracking Worksheet for full worksheet and MEPA Trigger Checklist.



WETLAND SETBACK LOCATIONS

Massing Study

Since the submission of the Preferred Schematic Report, the design team underwent several massing study exercises to better understand the distribution of program areas, respond to the needs of the educational program and its various spacial adjacencies, and maintain the most compact and economic building footprint possible.

To achieve these goals, it was quickly determined that the model of a single-story public wing connecting the (2) two-story classroom wings was not the most efficient concept. Instead, by adding a second story to the public wing (Central Crossing), shared programs like the Art Room and Media Center move up and away from the first floor to become centralized hubs of student activity, while allowing for more efficient circulation space between the (2) classroom wings.

The building footprint is furthermore reduced by locating the Mechanical, Main Electric, and MDF Rooms to the second floor. This move also contributes to the building's resiliency; preventing damage to equipment by potential flooding or groundwater infiltration associated with the nearby wetlands.

Through the massing study, the design team looked at ways in which to use the "blocks" of program to create zones of identity, which give each portion of the building a distinctive look and feel while seamlessly coming together in a cohesive material language. Heavy materials like masonry meet lighter materials such as aluminum panel and wood-look rainscreen to help break up the facade. Combinations of masonry color blends allow for identifiable characteristics of larger masses such as the Gymnasium, Cafeteria, and Classroom Wings.

Lastly, while the location of the school is placed a comfortable distance from adjacent residences, special attention to the "public-facing" portion of the building would not have an imposing feeling to the surrounding neighborhood context which, to this point, has become accustomed to a single-story school building.

Structural Narrative

The proposed building is a new one- and two-story construction. The two-story construction includes two classroom wings on the sides and a center bar connecting the two wings forming a C shape in plan. The center bar will house a media center, an art room, and offices. The gymnasium and cafeteria are one-story, located at each end of the center bar.

The building's superstructure will include steel and concrete decks supported by structural steel beams, joists, and columns. The building will be supported on conventional spread footing foundations.

FOUNDATION & GROUND FLOOR

Foundation

According to the "Preliminary Geotechnical Guidelines Report" prepared by Lahlaf Geotechnical Consulting, Inc. dated May 2024, the proposed building foundation will consist of conventional spread footings over natural soil or compacted structural fill. Reinforced concrete frost walls and column pilasters will be constructed along the perimeter of the building. The bottom of perimeter wall footings and footings in unheated areas will be placed at a minimum of 4'-0" below the finished grade for frost protection. The bottom of interior column footings in heated areas will be placed at approximately 3'-6" below the ground floor slab.

Ground Floor

Ground floor slab will be concrete slab-on-grade of 5" thick. The slab-on-grade will be constructed over properly prepared sub-grade materials and will be reinforced with welded wire fabric. Control joints will be cut into the slab at column grids and a maximum of 15' in each direction.

SUPERSTRUCTURE

Two-Story Construction

Structural steel beams and columns supporting steel roof decks and concrete composite steel floor decks. The typical girders will be steel wide flanges sections (W-shapes) that span 25' to 30', and typical steel beams will be W-shapes spanning approximately 30' at 8' to 10' spacing. Steel beams for landing and stringers of monumental stairs will be rectangular tube steel shapes. Typical columns will be 12" deep steel W-shapes. Columns at exposed locations will be rectangular or round tube steel shapes.

Second floor decks will consist of 3.5" thick normal-weight concrete over 3" deep galvanized composite steel deck (6.5" total thickness). A minimum of one row of stud shear connectors, 3/4 inch in diameter and 5" long, will be welded over the top of each supporting beam at an interval of not more than one foot. The roof deck will be 3" deep type N steel roof deck.

Gymnasium & Cafeteria

Roof structure of the gymnasium and cafeteria will consist of roof deck 3.5" deep dovetail acoustical steel roof deck supported by long span steel open web joists. The steel joists will be approximately 50" deep spaced at 8' to 9' on centers. The joists will be supported by steel girders and columns located at the perimeter of the gym and cafeteria.

Gymnasium will have perimeter 12" thick reinforced CMU walls between steel columns. A row of steel beams will span between steel columns on top of the CMU wall to support the sill of strip windows.

Connections

A typical beam to beam, beam to girder, and a typical beam/girder to column connection will be a double angle connection with bearing type bolts. Connections for the lateral load resisting moment frames will be shop and field welded. Connections for lateral load resisting braced frames will be shop and field welded or slip critical bolted.

Lateral Load Resisting System

The building will be stabilized against wind and seismic forces by concentric steel braced frames in both orthogonal directions at locations permitted by the architectural design. At Gymnasium, the lateral system will be supplemented by CMU shear walls

AESS

Steel framing, including connections, exposed to view will meet the requirements of Architecturally Exposed Structural Steel (AESS).

Steel Quantity

For the purpose of schematic design quantity estimate, the structural steel weight is assumed to be 16 pounds per square foot. This weight will include steel beams, girders, columns, framing for stairs and elevators, relieving angles, plates, hangers, diagonal bracings, etc., but exclude equipment screens, dunnage, shear studs, composite steel floor deck and steel roof deck.

LEED Certification

The use of structural steel which is comprised of at least 93% recycled content, and the addition of ground granulated blast furnace slag, a cementitious waste product of steel manufacturing, to the concrete mix will contribute to the goal of LEED certification.

DESIGN LOADS & PARAMETERS

The proposed building structure will be designed in accordance with the 10th Edition draft of the Massachusetts State Building Code. The design loads and parameters are as follows:

Floor Live Loads

First Floor & Public Space	100 PSF
Corridors Above First Floor	80 PSF
Classrooms	50 PSF
Light Storage	125 PSF

Dead Loads

Mechanical Units	Actual Weights
Roofing & Insulation	5 PSF
PV Panels & Ballast	10 PSF
Services & Ceiling	10 PSF
Structure	Est. Actual Weights

Wind Loads

Basic Wind Speed V_{ult} = 128 mph , Risk Category III

Exposure: B

Roof Snow Loads

Ground Snow Load Pg = 40 PSF

Exposure Factor Ce = 0.9

Thermal Factor Ct = 1.0

Importance Factor I = 1.1

Minimum Flat Roof Snow Load Pf = 35 PSF

(Basic snow load will be adjusted for drift, roof slope, sliding.)

Earthquake Loads

Risk Category: III

Seismic Importance Factor: I = 1.25

Mapped Spectral Response Acceleration at Short Period: S_s = 0.237g

Mapped Spectral Response Acceleration at 1 second: S_1 = 0.062g

Site Class: D (Per Preliminary Geotech Report)

Seismic Design Category: B

Lateral Load Resisting System: Ordinary Steel Braced Frames

Response Modification Factor: R = 3

Analysis Procedure: Equivalent Lateral Force Analysis

Mechanical Narrative

The following is the HVAC system narrative, which defines the scope of work and capacities of the HVAC system as well as the Basis of Design. The HVAC systems shall be designed and constructed for LEED for Schools v4 where indicated on this narrative.

CODES

All work installed under Division 230000 shall comply with the Commonwealth of Massachusetts Adopted Building Codes (IBC, IMC, IECC latest Adopted Editions with MA amendments), Massachusetts Municipal Stretch Energy Code 2023, and all local, county, and federal codes, laws, statutes, and authorities having jurisdiction.

DESIGN INTENT

The work of Division 230000 is described within the narrative report. The HVAC project scope of work shall consist of providing new HVAC equipment and systems as described here within. All new work shall consist of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Heating, Ventilating and Air Conditioning work and all items incidental thereto, including commissioning and testing.

The HVAC narrative below provides a summary of HVAC options lifecycle cost analysis (LCCA) in section 4 below. The proposed HVAC options to be studied as described withing sections 5, 6 and 7. Sections 1,2, 3, and 8 through 12 of the Narrative are general requirements that pertain to all options.

BASIS OF DESIGN: (MASS CODE)

Project weather and Code temperature values are listed herein based on weather data values as determined from ASHRAE weather data tables and the International Energy Conservation Code.

- Outside: Winter 2 deg. F, Summer 88 deg. F DB 73 deg. F WB
- Inside: 70 deg. F +/- 2 deg. F for Heating, 75 deg. F +/- 2 deg. F (55% RH) for Air-conditioned areas (Administration, Nurses Office, Guidance, Cafeteria, Classrooms, Teacher Support and Gym (during normal School Use).
- 78-80 deg. F (55% RH) for Corridor, Gym (During Assembly use).
- Unoccupied temperature setback will be provided 60 deg. F heating (adj.), 85 deg. F (adj›) cooling (adj.).

Outside air shall be provided at the rate in accordance with ASHRAE Standard 62.1 and the International Mechanical Code (latest adopted editions) as a minimum. All occupied areas will be designed to maintain 800 PPM carbon dioxide maximum.

Geothermal Water Source Heat Recovery Heat Pump Chiller & Heating Plant w/ VAV Displacement System

A central geothermal ground source water to water heat recovery heat pump chiller plant shall be provided to generate hot water and chilled water for building air handling unit and terminal heating/cooling equipment. Central (indoor or rooftop) hot water and chilled water air handling units with 75% eff. Energy recovery ventilation (ERV) providing Displacement Ventilation to terminal VAV units w/ CO2 DCV (demand control ventilation) and terminal hot water and chilled water dual-temp perimeter passive radiant heating/cooling panels. Exhaust fans would be provided for janitor's closets, and utility rooms. Hot and chilled water terminal units shall be provided for IT Server Rooms, Electric rooms and elevator machine rooms.

Geothermal Heating and Cooling Plant

1. Heating and cooling for the entire building will be capable of being provided through the use of a high-efficiency geothermal heating and cooling plant including a modular ground water source to water simultaneous heating/cooling heat recovery heat pump chillers with seven (7) 50 nominal ton cooling/40 ton nominal heating modules, with two (2) of the modules for heating/cooling backup purposes. The estimated peak

heating load is 200 tons, and the estimated peak cooling load is 275 tons. The heat pump chiller units will be located in the Mechanical Room. The heat pump heat recovery chillers will be provided with ground source condenser water from approximately (60) closed loop type quad-loop ground source geothermal wells approximately 650 feet deep and spaced a minimum of 20-25' apart from one-another, based on a capacity of 4.5 tons/well. The final well quantity, depth and distances shall be determined by the geothermal design consultant.

2. The heat pump chiller plant will supply heating hot water to heating equipment and systems located throughout the building through a two-pipe fiberglass insulated schedule 40 black steel and copper piping system. The plant shall supply a maximum hot water temperature of 130°F on a design heating day. Primary and standby end suction base mounted pumps will be provided with variable frequency drives for variable volume flow through the water distribution system for improved energy efficiency. In addition to pumps, new hot water accessories including air separators and expansion tanks shall be provided.
3. The heat pump chiller plant will distribute between 45°F and 55°F chilled water to the roof mounted air handling units and a compensated chilled water distribution system located throughout the building will distribute between 55°F and 65°F chilled water to the terminal radiant cooling panels units in the fully air conditioned Classrooms, Administration, Guidance, Media Center, Cafeteria, and Nursing Areas. The chilled water distribution piping will be of the fiberglass insulated schedule 40 type and will be completely separate from the hot water distribution piping system. Chilled water pumps and variable frequency drives (which will control down to maintain a minimum flow to the chiller) will be provided for overall variable flow chilled water system distribution. Compensated chilled water pumps with variable frequency drives will be provided for variable flow chilled water system distribution. In addition to pumps, new chilled water accessories including air separators and expansion tanks shall be provided.
4. Primary and standby geothermal water pumps with variable frequency drives (which will control down to maintain a minimum flow to the heat pump chillers) will be provided for overall variable flow condenser water system distribution. In addition to pumps, new geothermal water accessories including air separators and expansion tanks shall be provided.

Ventilation Air Handling Equipment

It is proposed that a new air-conditioning displacement ventilation system shall be provided to provide air-conditioning and ventilation to the occupied areas of the building.

1. New rooftop air handling units with 100% outside air operation capability, supply and return air fans with VFDs, energy recovery wheels, hot water heating coil with modulating valve, chilled water cooling coil, hot water re-heat coil, economizer capability, and MERV 14 filtration will be provided to serve a new full air conditioning displacement ventilation system. Different building rooms and zones shall be provided with a variable volume (VAV) terminal box with combination temperature, humidity, and CO2 sensor controls. The controls will reduce outside air as allowed by maintaining a maximum of 800 PPM while providing sufficient ventilation to meet the required heating or cooling load of the classroom. As VAV boxes modulate, the supply and return air fans associated Variable Frequency Drives (VFD) of the rooftop units will adjust the fan speed based on system static pressure, reducing the energy consumed by the fans. Each room (or zone) shall be provided with low wall or floor mounted supply air displacement diffusers. Classrooms will typically be provided with two individual wall mounted displacement diffusing units between 250 and 400 CFM each (depending on room size). Return air will be drawn back to the units by ceiling return air registers located within the rooms and will be routed back to the rooftop unit by a galvanized sheet metal return air ductwork distribution system. Supplemental

ceiling mounted chilled/hot water radiant ceiling panels will be provided along exterior walls that shall be interlocked with space enthalpy sensors that shall modulate the control valve of the coil closed when the space enthalpy is above dewpoint conditions.

Preliminary AHU Quantities, zones and airflow capacities are as follows:

- AHU-1, 2, 3, & 4 – Classrooms – 32,000 CFM Total (Each unit @ 8,000 CFM Avg.)
- AHU-5 – Gym – 6,500 CFM
- AHU-6 – Media Center, Administration, Main Entry, Central core areas – 12,000 CFM
- AHU-7 – Cafeteria – 6,500 CFM
- MAU-1 Kitchen (Make-Up Air) – 2,500 CFM

ERV Units

1. The ERV units shall be designed to provide air conditioning or partial air conditioning (dehumidification) to the majority of building areas. The Administration, Media Center and Cafeterias areas shall be provided with "full" air conditioning to maintain 75 deg F on a design cooling day, whereas the Gym and Classroom and related Teacher support areas shall be designed for partial air conditioning to maintain a temperature of 78-80 deg F on a design cooling day.
2. It is proposed that building Classrooms and adjacent teacher support and circulation areas, Administration Areas, Cafeteria and Gym Areas are served by a displacement ventilation air system which consists of low wall supply displacement air diffusers and ceiling mounted return/exhaust air registers.
3. Code required exhaust for the majority of building areas, including toilet rooms, shall be provided through the localized energy recovery ventilation (ERV) systems.
4. Dedicated exhaust air fan systems shall be provided for Kitchen exhaust air (if provided) and Janitor's closet areas.
5. New insulated galvanized sheet metal ductwork shall be provided to connect the ERV units supply and return ductwork to each space. New VAV (variable air volume) terminal boxes with temperature and demand control ventilation shall be provided for each classroom, teacher support room and the office areas. Enthalpy controls shall be provided to shut down mechanical cooling systems when operable windows are opened during hot and humid outdoor air conditions.
6. Unitary type hot and chilled water terminal units shall be provided to serve IT server rooms and closets.
7. A new direct digital automatic temperature control (ATC) and building energy management system (BMS). The new ATC/BMS system shall be web accessible, include energy metering, and shall be capable of being integrated into the City-wide energy management system.

Lobby, Corridor, & Entry Way Heating

New hot water convectors, cabinet unit heaters, and fin tube radiation heating equipment shall be installed to provide heating to building entry way and stairwell areas. Corridors shall be ventilated from adjacent air handling unit systems. Main Corridor and Lobby areas shall be heated and dehumidified by the displacement ventilation systems.

Utility Areas

Utility areas will be provided with exhaust air fan systems for ventilation and will typically be heated with horizontal type ceiling suspended hot water or electric unit heaters. The Main Electric Rooms and IDF rooms will be air conditioned by high efficiency ductless AC cooling units.

Testing, Adjusting, Balancing & Commissioning

All new HVAC systems shall be tested, adjusted, balanced and commissioned as art of the project scope.

Automatic Temperature Controls – Building Energy Management System

A new DDC (direct digital control) Automatic Temperature Control and Building Energy Management System shall be installed to control and monitor building HVAC systems. Energy metering

shall be installed to monitor the energy usage of building HVAC systems and utilities (electric, water). The new DDC/ATC system shall be a BACNet open protocol system that is capable of being integrated into the City Wide Central energy management system.

TESTING REQUIREMENTS

The Mechanical Contractor shall provide testing of the following systems with the Owner and Owner's Representative present:

- Heat pump chiller plant system
- Condenser (Ground-Source) water plant system for Option 2
- Back up boiler plant for Option 2 & 3
- Air handling unit systems including all rooftop units, indoor air handling systems and exhaust air systems
- Terminal heating and cooling devices
- Variable Refrigerant Flow (Option 1) and Ductless AC Systems (All Options)
- Automatic temperature control and building energy management system

Testing reports shall be submitted to the Engineer for review and approval before providing to the Owner.

OPERATION & MAINTENANCE MANUALS

When the project is completed, the Mechanical Contractor shall provide operation and maintenance manuals to the owner.

RECORD DRAWINGS & CONTROL DOCUMENTS

When the project is completed, an as-built set of drawings, showing all mechanical system requirements from contract and addendum items will be provided to the owner.

COMMISSIONING

The project shall be commissioned per the Commissioning Section of the specifications.

Plumbing Narrative

The following is the Plumbing system narrative, which defines the scope of work and capacities of the Plumbing system as well as the Basis of Design. The Plumbing Systems shall be designed and constructed for LEED v4 where indicated on this narrative.

CODES

All work installed under Section 220000 shall comply with the MA Building Code, MA Plumbing Code and all state, county, and federal codes, laws, statutes, and authorities having jurisdiction.

DESIGN INTENT

All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Plumbing work and all items incidental thereto, including commissioning and testing.

GENERAL

1. The Plumbing Systems that will serve the project are cold water, hot water, sanitary waste and vent system, Kitchen waste system and storm drain system.
2. The building will be serviced by Municipal water and Septic sewer system.
3. All Plumbing in the building will conform to Accessibility Codes and to Water Conserving sections of the Plumbing Code.

DRAINAGE SYSTEM

1. Soil, Waste, and Vent piping systems are provided to connect to all fixtures and equipment. The system runs from 10 feet outside the building and terminates with stack vents through the roof.
2. A separate Kitchen Grease Waste System starting with connection to an exterior concrete grease interceptor running through the kitchen and Servery area fixtures and terminating with a vent terminal through the roof. The point of use grease

interceptors are to be provided at designated kitchen fixtures. The grease interceptor is provided under Division 33 scope.

3. Storm Drainage system is provided to drain all roofs with roof drains piped through the building to a point 10 feet outside the building.
4. Drainage system piping will be service weight cast iron piping; hub and spigot with gaskets for below grade; no hub with gaskets, bands and clamps for above grade 2 in. and larger. Waste and vent piping 1-1/2 in. and smaller will be type 'L' copper.

WATER SYSTEM

1. A new 4-inch domestic water service from the municipal water system will be provided. A meter and backflow preventer will be provided.
2. Cold water distribution main is provided. Non-freeze wall hydrants with integral back flow preventers are provided along the exterior of the building.
3. Domestic hot water heating for the Kitchen will be provided with an electric storage tank type water heater (36 kW input), with a storage capacity of 500 gallons. The system be equipped with thermostatically controlled mixing devices to control water temperature to the fixtures.
4. Domestic hot water heating for the Toilet Core areas shall be provided with an electric storage tank type water heater (9 kW input), with a storage capacity of 30 gallons. The system is equipped with thermostatically controlled mixing devices to control water temperature to the fixtures.
5. A pump will re-circulate hot water at the Kitchen and Toilet Core piping systems. The water temperature will be 120 deg. to serve general use fixtures.
6. Remote plumbing fixtures requiring hot water will be served with electric, point-of-use, instantaneous water heaters (8.3 kW, 208 volts, 1 phase each).
7. Water piping will be type 'L' copper with wrot copper sweat fittings, silver solder or press-fit system. All piping will be insulated with 1 in. thick high-density fiberglass.

FIXTURES LEED v4

1. Furnish and install all fixtures, including supports, connections, fittings, and any incidentals to make a complete installation.
2. Fixtures shall bear the manufacturer's guaranteed label trademark indicating first quality. All acid resisting enameled ware shall bear the manufacturer's symbol signifying acid resisting material.
3. Vitreous china and acid resisting enameled fixtures, including stops, supplies and traps shall be of one manufacturer by Kohler, American Standard, or Eljer, or equal. Supports shall be Zurn, Smith, Josam, or equal. All fixtures shall be white. Faucets shall be Speakman, Chicago, or equal.
4. Fixtures shall be as scheduled on drawings.
    - » Water Closet: High efficiency toilet, 1.28 gallon per flush, wall hung, vitreous china, siphon jet. Manually operated 1.28 gallon per flush-flush valve.
    - » Urinal: High efficiency 0.13 gallon per flush urinal, wall hung, vitreous china. Manually operated 0.13 gallon per flush-flush valve.
    - » Lavatory: Wall hung/countertop ADA lavatory with 0.35 GPM metering mixing faucet.
    - » Sink: MAAB/ADA stainless steel countertop sink with gooseneck faucet and 0.5 GPM aerator.
    - » Drinking Fountain: Barrier free hi-low wall mounted electric water cooler, stainless steel basin with bottle filling stations.
    - » Janitor Sink: 24 x 24 x 10 Terrazo mop receptor Stern-Williams or equal.

DRAINS

Drains are cast iron, caulked outlets, nickaloy strainers, and in waterproofed areas and roofs shall have galvanized iron clamping rings with 6 lb. lead flashings to bond 9 in. in all directions. Drains shall be Smith, Zurn, Josam, or equal.

VALVES
Locate all valves so as to isolate all parts of the system. Shutoff valves 3 in. and smaller shall be ball valves, solder end or screwed, Apollo, or equal.

INSULATION
All water piping shall be insulated with snap-on fiberglass insulation Type ASJ-SSL, equal to Johns Manville Micro-Lok HP.

CLEANOUTS
Cleanouts shall be full size up to 4 in. threaded bronze plugs located as indicated on the drawings and/or where required in soil and waste pipes.

ACCESS DOORS
Furnish access doors for access to all concealed parts of the plumbing system that require accessibility. Coordinate types and locations with the Architect.

Fire Protection Narrative

The following is the Fire Protection system narrative, which defines the scope of work and capacities of the Fire Protection system, as well as, the Basis of Design.

CODES
All work installed under Section 210000 shall comply with the MA Building Code and all state, county, and federal codes, laws, statutes, and authorities having jurisdiction.

DESIGN INTENT
All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Fire Protection work and all items incidental thereto, including commissioning and testing.

GENERAL
In accordance with the provisions of the Massachusetts Building Code, a school building of greater than 12,000s.f. must be protected with an automatic sprinkler system.

DESCRIPTION
1. The new building will be served by a new 6-inch fire service, double check valve assembly, wet alarm valve complete with electric bell, and fire department connection meeting local thread standards.
2. The system will be an automatic sprinkler system with a total of four (4) control valve assemblies. The system shall be installed in accordance with NFPA 13-2019.
3. Control valve assemblies shall consist of a supervised shutoff valve, check valve, flow switch and test connection with drain. Standpipes meeting the requirements of NFPA 14-2019 shall be provided in the Stage area.
4. All areas of the building, including all finished and unfinished spaces, combustible concealed spaces, all electrical rooms and closets will be sprinklered.
5. All sprinkler heads will be quick response, pendent in hung ceiling areas and upright in unfinished areas.
6. Fire department valves and cabinets will be provided on each side of the Stage.

BASIS OF DESIGN
The mechanical rooms, kitchen, and storage rooms are considered Ordinary Hazard Group 1. The stage is considered Ordinary Hazard Group 2. All other areas are considered light hazard.

- Required Design Densities:
  - » Light Hazard Areas = 0.10 GPM over 1,500 s.f.
  - » Ordinary Hazard Group 1 = 0.15 GPM over 1,500 s.f.
  - » Ordinary Hazard Group 2 = 0.20 GPM over 1,500 s.f.

Sprinkler spacing (max.):

- » Light Hazard Areas = 225 s.f.
- » Ordinary Hazard Areas = 130 s.f.

A flow test shall be performed to confirm the Municipal water system capacity.

DOUBLE CHECK VALVE ASSEMBLY

- Double check valve assembly shall be MA State approved, U.L./F.M. approved, with iron body bronze mounted construction complete with supervised OS & Y gate valves and test cocks. Furnish two spare sets of gaskets and repair kits.
- Double check valve detector assembly shall be of one of the following:
  - » Watts Series 757-OSY
  - » Wilkins 350A-OSY
  - » Conbraco Series 4S-100
  - » Or equal

PIPING

Sprinkler piping 1-1/2 in. and smaller shall be ASTM A-53, Schedule 40 black steel pipe. Sprinkler/ standpipe piping 2 in. and larger shall be ASTM A-135, Schedule 10 black steel pipe.

FITTINGS

Fittings on fire service piping, 2 in. and larger, shall be Victaulic Fire Lock Ductile Iron Fittings conforming to ASTM A-536 with integral grooved shoulder and back stop lugs and grooved ends for use with Style 009-EZ or Style 005 couplings. Branch line fittings shall be welded or shall be Victaulic 920/920N Mechanical Tees. Schedule 10 pipe shall be roll grooved. Schedule 40 pipe, where used with mechanical couplings, shall be roll grooved and shall be threaded where used with screwed fittings. Fittings for threaded piping shall be malleable iron screwed sprinkler fittings.

JOINTS

Threaded pipe joints shall have an approved thread compound applied on male threads only. Teflon tape shall be used for threads on sprinkler heads. Joints on piping, 2 in. and larger, shall be made up with Victaulic, or equal, Fire Lock Style 005, rigid coupling of ductile iron and pressure responsive gasket system for wet sprinkler system as recommended by manufacturer.

SPRINKLERS

1. All sprinklers to be used on this project shall be Quick Response type.
2. Furnish spare heads of each type installed located in a cabinet along with special sprinkler wrenches. The number of spares and location of cabinet shall be in complete accord with NFPA 13-2013.
3. Sprinklers shall be manufactured by Tyco, Victaulic, Viking, or equal.
4. Upright sprinkler heads in areas with no ceilings shall be Tyco Model "TY-FRB" Quick Response, upright natural brass finish heads. Include heavy duty sprinkler guards in all mechanical rooms and storage rooms.
5. Sidewall heads shall be Tyco Model "TY-FRB" Quick Response with white polyester head and escutcheon.
6. Pendent wet sprinkler heads shall be Tyco Model "TY-FRB" Quick Response recessed adjustable escutcheon, white polyester finish.
7. Concealed heads shall be Tyco Model "RFII" Quick Response concealed type, 1-1/2 inch adjustment white cover plate. In special areas, as may be noted on the Drawings, provide alternate cover plate finishes.
8. Use of flexible stainless steel hose with fittings for fire protection service that connect sprinklers to branch lines in suspended ceilings is acceptable. Flexible hoses shall be UL/FM approved and shall comply with NFPA 13 standards. Hose assemblies shall be type 304 stainless steel with minimum 1-inch true-bore internal hose diameter. Ceiling bracket shall be galvanized steel and include multi-port style self-securing integrated snap-on clip ends that attach directly to the ceiling with tamper resistant screws.

Electrical Narrative

The following is the Electrical Systems narrative, which defines the scope of work and capacities of the Power and Lighting System, as well as, the Basis of Design. The Electrical Systems shall be designed and constructed for LEED for Schools where indicated on this narrative.

CODES

All work installed under Section 260000 shall comply with the Massachusetts State Building Code and all local, county, and federal codes, laws, statutes, and authorities having jurisdiction.

DESIGN INTENT

The work of Section 260000 is as described in this narrative. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the electrical work and all items incidental thereto, including commissioning and testing.

SEQUENCE OF OPERATIONS AND INTERACTIONS

1. Classroom and Corridor lighting will be controlled via “addressable relays”, which is achieved through programming networked controls. The control of the relays will be by automatic means, such as an occupancy sensor in each classroom. The system will have a BacNet gateway and will be interfaced with the DDC control system for scheduled functions. The controllability shall be in conformance with credit LEED credit IEQC 6.1.
2. Automatic control of receptacles based on occupancy will be provided for at least 50% of the receptacles installed in private offices, open offices, conference rooms, rooms used primarily for printing and/or copying functions, break rooms, individual workstations, and classrooms. Controlled receptacles will be marked per NEC 406.3 (E).
3. Exterior lighting will be controlled by photocell “ON” and “scheduled” for “OFF” operation. The parking area lighting will be controlled by “zones” with dimmable capability. Exterior lights will be addressable and dimmable. Fixtures will be designed and programmed to turn on at dusk utilizing photo sensor input. Fixture shall be turned off based on scheduled preference typically 5AM-6AM. Fixture output shall be scheduled to be reduced by 50% after 12AM. Additional schedule functionality shall be provided based on end user input.
4. Emergency and Exit lighting will be run through life safety panels and will be “ON” during normal power conditions, as well as power outage conditions. The emergency lighting system will have time control so that lights are “ON” only when the building is occupied.

DESCRIPTION OF THE SYSTEMS

Utilities

1. The new building will be supplied with utility power from the utility company National Grid. The new service will be fed via underground primary duct bank to a pad mounted utility company owned liquid filled transformer. The service will utilize overhead 3-phase service form Clifford Street.
2. The service electrical transformer will be furnished, installed, owned and maintained by National Grid, and it will be located adjacent to the building as shown on the civil drawings. The transformer will be of the pad- mounted type with a primary voltage of 13.8 kV and a secondary voltage of 480Y/277 volts. The transformer will be sized by the utility company based on the load data provided by The Design team.
3. Concrete pad and grounding grid for the pad-mounted transformer is provided by the Contractor per the National Grid standards.
4. Concrete encased duct bank of the two 4" PVC conduits will be provided by the Electrical Contractor for the primary feeder installation from a utility pole to the pad-mounted transformer. Pre-cast concrete manholes 5' x 5' will be provided by the Contractor to facilitate the primary cables field installation. The duct bank routing is shown on the civil drawings.
5. Utility company will provide a primary feeder cable from the utility manhole to the

pad-mounted transformer via the new manhole and terminate the feeder cable on both ends.

6. Transformer secondary feeder of copper conductors will be installed underground in the duct bank of six 4" PVC conduits from the pad-mounted transformer to the main electrical switchboard located in the main electrical room. The secondary feeder and terminations at the switchboard side will be provided by the Electrical Contractor and terminated at the transformer side by National Grid. The new service will be metered at the transformer secondary voltage.
7. National Grid metering CTs will be installed in a CT section of the switch board, the meter will be located at the direction of the utility company.
8. Telephone, Cable TV, and City Fiber will be fed underground into the building's Main Distribution Frame/Head End Room. Communication services will come from Clifford Street. Overhead utility distribution then transition to below grade once on the site.
9. Copper conductors shall be utilized for all branch circuit and feeder wiring. Aluminum conductors will be allowed for feeders 100 amperes or over.
10. The building connected electrical load estimate is based on the preliminary building systems design:

Load Type	KVA
HVAC Loads (including AHU, Destratification Fans, DCU, Chiller, UH, VRF, Boilers, FCs, Pumps, RTUs, Exhaust Fans, DCU)	784 KVA
Elevator	31.7 KVA
Exterior Lighting	2.0 KVA
General Power	196 KVA
Kitchen	112 KVA
EV Charging	18 KVA
Plumbing/Fire Protection (Pumps, etc.)	150 KVA
Total Connected Load	**1,432.7 KVA**

Electrical Distribution System

1. Service ratings for the building are designed for a connected load of 1,432.4 KW. The service capacity will be sized for 2,000 Amperes with a 80% rated main breaker. The main bus will be sized at 2,500 Amperes and will have an available breaker space provision at the end of the switchboard to accommodate a future grid connected photovoltaic array. The switchboard will be furnished with a service entrance surge protection device (SPD) rated at 240 kA and a digital metering unit to monitor voltage, current, power factor, demand KW and with a data communication port for interface with BMS. Main switchboard's short circuit rating will be coordinated with the Utility Company but will be rated for 65 KAIC.
2. New lighting and power panels will be provided to accommodate respective loads. The equipment locations will be in dedicated rooms or closets.

Interior Lighting System

1. The intent of the lighting design is to provide a visual environment for the students and faculty that is supportive of the educational activities within the building. The lighting system will be designed in compliance with the applicable Energy Code and be eligible for the Utility company rebate program.
2. Interior lighting illumination levels will meet the IES recommended values for applicable activity type, be in compliance with the IECC 2021 energy allowances and LEED for Schools control requirements.

PROPOSED ILLUMINATION LEVELS

Location	Average Illumination Levels
Classrooms	30 FC
Offices, Conference Rooms, Library	30 FC
Kitchen	50 FC
Gymnasium	50 FC
Cafeteria	30 FC
Corridors	20 FC
Utility and Storage Rooms	20 FC

3. Classroom lighting fixtures will consist of recessed/surface mounted direct/indirect luminaries with integral LED source and electronic dimmable drivers. The fixtures will be pre-wired for continuous dimming control where natural daylight is available and also for multi-level switching. Two daylight dimming zones will be provided in each classroom.
4. Office lighting fixtures will consist of recessed/surface mounted direct only LED luminaries and electronic drivers for dual-level switching. Offices on the perimeter with windows will have daylight dimming where lighting within the daylight zone exceeds 150W.
   In general, lighting power density will be 20-40% less than IECC 2021. The power density reduction relates to associated LEED credit in energy and atmosphere.
5. Lighting levels will be approximately 30-foot candles in classrooms and offices. The daylight dimming foot-candle level will be in compliance with associated LEED credit in indoor environment quality.
6. Gymnasium lighting will be comprised of direct/indirect fixtures with integral LED source and electronic drivers. The fixtures will be provided with poly carbonate lensing. The light level will be designed for approximately 50-foot candles. Multi-level switching will be provided.
7. Daylight dimming will be provided within 15-feet of skylights or glazing where lighting within the daylight zone exceeds 150W. Daylight dimming controls will be similar in operation to classrooms.
8. Corridor lighting will be comprised of recessed mounted linear fixtures with integral LED source and electronic drivers. The Corridor light level will be designed for approximately 20-foot candles. Corridor lighting will be controlled via time schedules during normal business hours and set to occupancy control thereafter.
9. Cafeteria lighting will be a combination of pendant mounted fixtures with direct only and direct/indirect distribution types. All fixtures shall be provided with integral LED source and electronic drivers. The light levels will be designed for approximately 30-foot candles.
10. Stage and Auditorium theatrical lights with connector strips and a dimming system will be provided for performances. House lighting in Auditorium will be DMX dimmable to black LED and controlled by a theatrical dimming system.
11. Kitchen and Servery lighting will consist of recessed 2'x2' and 2'x4' acrylic lensed gasketed troffers with aluminum frame doors, integral LED source, electronic drivers and NSF rated for food preparation areas. Light levels will be approximately 50 foot candles.
12. Media Center lighting will be a combination of pendant decorative pendant fixtures and recessed fixtures with integral LED source and electronic drivers. The light levels will be designed for approximately 30 foot candles. Daylighting controls will be provided on perimeter light fixtures with 15 feet of glazing.
13. Each area will be locally switched and designed for multi-level controls. Each Classroom, Office space, and Toilet room will have occupancy sensors to turn lights off when unoccupied. Occupancy sensors will be set to vacancy mode where required by Energy Code.

14. Daylight dimming sensors will be installed in each room where natural light is available for continuous dimming of light fixtures. The control system will be in accordance with associated LEED credit in indoor environmental quality when lighting within the daylight zone exceeds 150W threshold.
15. The entire school will be controlled with an automatic lighting control system for programming of interior and exterior lights "on and off". Lighting control system will be interfaced with BMS system, and will be demand response capable in accordance with associated LEED credit in Energy and atmosphere.

Emergency Lighting System

1. An exterior 400KW, 500KVA (diesel fired emergency generator with sound attenuated enclosure and base tank with alarms will be provided. An integral resistive load bank will be provided for generator testing under load. Light fixtures and LED Exit signs will be installed to serve all egress areas such as Corridors, Intervening Spaces, Toilets, Stairs, and Exit discharge exterior doors. The Administration area lighting will be connected to the emergency generator.
2. The generator power system has been sized to support emergency (life safety), and optional standby building loads. The life safety branch of the emergency system will be provided with a manual transfer switch on the emergency line side of the transfer switch in compliance with NEC 700.3(F).

Emergency (life safety) Power Loads as required by the Code:

- » Emergency exit and egress lighting (interior and building exterior at the exits)
- » Fire alarm system

Standby Power Loads:

- » Heating system with associated heat pumps and controls
- » Telephone/ data closets and associated A/C equipment
- » Communication systems (telephone and public address systems)
- » Building DDC system control panels
- » Kitchen refrigeration equipment
- » Lighting and power in the nurse/medical area
- » Security system equipment

Site Lighting System: LEED Credit SSC8

1. Fixtures for area lighting will be pole mounted cut-off 'LED' luminaries in the parking area and roadways. Pole heights will be 20 feet. The exterior lighting will be connected to the automatic lighting control system for photocell "ON" and timed "OFF" operation. The site lighting fixtures will be dark sky compliant. The illumination level will be 0.5 foot-candle for parking areas in accordance with the Illuminating Engineering Society.
2. Building perimeter will be 'LED' wall mounted cut-off fixtures over exterior doors for exit discharge.

Wiring Devices

1. New classrooms will have a minimum of (2) duplex receptacles per teaching wall and (2) double duplex receptacles on dedicated circuits at classroom computer workstations. The teacher's workstation will have a double duplex receptacle also on a dedicated circuit. Existing classrooms shall keep existing receptacles and have new, surface mounted receptacles provided in quantities equal to new classrooms.
2. New Office areas will generally have (1) duplex outlet per wall. At each workstation a double duplex receptacle will be provided.
3. Corridors will have a cleaning receptacle at approximately 25-40-foot intervals.
4. Exterior weatherproof receptacles with lockable enclosures will be installed at exterior doors.

5. A system of computer grade panelboards with double neutrals and surge protective devices will be provided for receptacle circuits.
6. Surface mounted raceways will be provided within renovated areas where raceways cannot be concealed in public spaces.
7. All receptacles will be of the tamper resistant type.

Fire Alarm System with Mass Notification

1. A fire alarm/mass notification system and detection system will be provided with 60-hour battery back-up. The system will be of the addressable type where each detection device will be identified at the control panel and remote annunciators by device type and location to facilitate search for origin of alarms. The notification system will be in conformance with NFPA 72 Chapter 24 emergency communications systems.
2. Smoke detectors will be provided in open areas, corridors, stairwells and other egress ways.
3. The sprinkler system will be supervised for water flow and tampering with valves.
4. Speaker/strobes will be provided in egress ways, classrooms, assembly spaces, open areas and other large spaces. Strobe only units will be provided in single toilets and conference rooms.
5. Manual pull stations will be provided at exit discharge doors.
6. The system will be remotely connected to automatically report alarms to the fire department via a method approved by the fire department.
7. A mass notification system will be provided with separate strobes from the fire alarm system. Audible tone shall be through fire alarm speakers. System activation shall be through panic buttons and card readers with dedicated lockdown key fob.

Metering

Measurement devices shall be installed to monitor the electrical energy use for each of the following separately:

- » Total electrical energy
- » Sub-metering in accordance with ASHRAE 90.1 paragraph 8.4.3

Recording and Reporting

The electrical energy usage for all loads listed above shall be recorded a minimum of every 15 minutes and reported at least hourly, daily, monthly, and annually. The system shall be capable of maintaining all data collected for a minimum of 36 months.

Uninterruptible Power Supply (UPS)

1. One (1) 24 kW, three phase centralized UPS system will be provided with seven minutes of battery back-up.
2. The system will provide conditioned power to sensitive electronic loads, telecommunication systems, bridge over power interruptions of short duration and allow an orderly shutdown of servers and communication systems during a prolonged power outage.
3. The UPS system will also be connected to the stand-by generator.

Lightning Protection System

1. A system of lightning protection devices will be provided.
2. The lightning protection equipment will include air terminals, roof main conductors and down conductors, conduits, fasteners, connectors, ground rods, etc.
3. The facility will be issued a UL Master Label Certificate.

Renewable Energy System Provisions

Electrical provisions will be made for a roof mounted renewable energy system consisting of a grid (location on Roof of Addition) connected photovoltaic PV system intended to reduce the facilities demand for power.

Two-Way Communications System

A Two-Way Communications System will be provided at the elevator lobbies that do not have grade access. Area of rescue assistance call boxes will be provided at Elevator Lobbies with no grade access. The call boxes connect to a main panel located adjacent to the Fire Alarm annunciator panel.

Level 2 AC Dual Electric Vehicle Charging Equipment. (EVSE)

Provide provisions for eight (8) dual port EVSE stations fed with 40 ampere feeders back to a EVSE panel. Two protective bollards will be installed at each charging station.

Distribution Antennae System (DAS)

A public safety radio distributed antenna system (DAS) which consists of bi-directional amplifiers (BDA), donor antennas, coverage antennas, coax cable, coax connectors, splitters, combiners, and couplers. These devices will be used as part of a system for in-building public safety 2-way radio system communication.

TESTING REQUIREMENTS

1. The Electrical Contractor shall provide testing of the following systems with the Owner and Owner's Representative present:
    - » Lighting and power panels for correct phase balance.
    - » Emergency generator system.
    - » Lighting control system (interior and exterior).
    - » Fire alarm system.
    - » Uninterruptible Power System, UPS.
    - » Lightning protection system.
    - » Two-way communication system.
    - » Distributed Antennae system.
2. Testing reports shall be submitted to the Engineer for review and approval before provided to the Owner.

OPERATION AND MAINTENANCE MANUALS

When the project is completed, the Electrical Contractor shall provide operation and maintenance manuals to the Owner.

RECORD DRAWINGS AND CONTROL DOCUMENTS

When the project is completed, an as-built set of drawings, showing all lighting and power requirements from contract and addendum items, will be provided to the Owner.

COMMISSIONING

The project shall be commissioned per Commissioning Section of the specifications.

PHASING

Cut cap and make safe existing building for demolition by Demolition Contractor.

Site Vulnerability

Risk Assessment & Evaluation

The project team has identified site resiliency concerns, weighed design mitigation options and proposed resulting design decisions. The Resilient Massachusetts Action Team (RMAT) Climate Resilience Design Standards Tool was used to screen the project site for climate risks. The results deem the site is not subject to coastal flooding, sea level rise, or storm surge and has a moderate exposure to riverine flooding. High exposures risks that are present at the location include extreme precipitation urban flash flooding and extreme heat. The report from this tool can be found in Appendix J: Resilient Mass Action Team Design Standards Tool Report.

The tool acknowledges that the projected values, standards, and guidance that are provided may be used to inform plans and designs, but they do no provide guarantees for future conditions. The projected values are not to be considered final or appropriate design guidance for construction documents without supporting engineering analysis. The Design Tools guidance is intended to be general and does not set specific project requirements. The tool does not replace location specific engineering calculations and analysis, existing code and regulatory requirements, risk and vulnerability assessments, or cost-benefit analyses.

Regarding riverine and urban flash flooding related to extreme precipitation events, there is no historic flooding at the site. The recommended design standard for urban flooding from the RMAT tool is a 50-year storm on a 2070 planning horizon resulting in a projected 24-hr precipitation depth of 9.7". The RMAT 2030 25-year storm has a 24-hr depth of 7.2”. The current design is to mitigate a 100 year storm on the current planning horizon, resulting in a total precipitation depth of 8.8". As noted above, the RMAT tool's recommendations are general and are based on the catchment area of the site. The project's peak run off rates from pre to post construction are anticipated to be substantially improved within the site's catchment area. The FEMA map indicates a floodplain elevation of approximately 268'. The finished floor elevation of the existing building is 274'. The first floor of the new building is proposed to be elevated above the elevation of the previous building. The stormwater system will be improved as part of the project and perimeter foundation drains and drainage under the playground and fields will be included.

Regarding extreme heat, this was deemed a relevant risk by the RMAT tool because there are 30+ day increase in the number of days over 90°F within the project's useful life, the project is located within 100' of a body of water, the existing impervious area is greater than 50%, and some existing trees are being removed as part of the project.

The recommended design standard for extreme heat from the RMAT tool is for 90th Percentile climate data on a 2070 planning horizon. However, the tool specifically acknowledges that its purpose is as a reference point or basis of discussion in planning, early design, and or the evaluation of projects. Current code requires that the mechanical system be sized for present weather data. This includes an assumption that 0.4% annual hours are to exceed 91°F/74°FWB. Per the ResilientMass Maps and Data Center's Climate Change Projections Dashboard, by 2050 Southborough is expected to see 2.7° increase in the average temperature, and 11 additional days over 90°F as compared to 2030. By 2070, this is projected to be 4.5° increase in the average temperature, and 32 additional days over 90°F. Note that the projected days over 90°F may not exceed this temperature for the entire duration of the day. The planned equipment will still perform as designed, although it will be less efficient as temperatures rise above 90°F.

The envelope design utilizing passive building principles is intended to limit the impact of exterior climate on the heating/cooling loads of the building. Making the building more resilient to future heat increases. The site will address the localized heat island effect with the use of high albedo roofing and

site hard scape and vegetation. In addition, the planned equipment is anticipated to have a life expectancy of 25-30 years, which will be just beyond 2050. At that time the code/ASHRAE will have updated their weather data to the future climate conditions for analysis in selection of the next equipment. At that time in the future, new equipment should be available that would have higher efficiencies to handle more extreme deltas in indoor and outdoor temperature. Future access to remove and install new equipment has been considered with double doors provided at each location required.

Sustainable Design Elements

The Neary School is designed to be a healthy, resilient, all-electric, net zero ready school. The project incorporates passive building standards including high thermal performance via thermal-bridge-free and air tight envelope, optimized window to wall ratio and skylight to roof ratio, energy recovery ventilation, and optimized orientation and massing. These standards reduce energy loads and improve indoor air quality and other aspects of the indoor environment.

Carbon & Energy Efficiency

The HVAC system planned for the school is a result of close discussion between the design team, Building Committee, and District staff. An Initial Life Cycle Cost Assessment (LCCA) was conducted that compared three options; variable refrigerant flow (VRF), ground source heat pump (GSHP), and . The design team provided updated state and federal incentive potential to the district for the air source and ground source options.

For more information on the LCCA, please refer to Appendix N: Life Cycle Cost Analysis (LCCA)

Massing, Siting & Envelope

To reduce energy loads, the building has the long façades of the classroom wings oriented as close to south-north exposure as possible. The window to wall ratio is less than 25%. The glazing is triple glazed with low U-factor and optimal SHGC. Both thermally broken aluminum frames and fiberglass windows will be evaluated. Opaque assembly u-factor targets are below, these are clear field derated values. Detailing of the air barrier and thermal breaks will be carefully reviewed for complexity of installation and continuity of the thermal and air barriers. A blower door test will be completed during construction to confirm the air leakage is less than 0.35 CFM/sf @ 75 Pa.

- Roofs: u-0.027
- Metal Framed Walls: u-0.033
- CMU Mass Walls: u-0.0417
- Slab on grade: u-0.36

Materials & Indoor Environment

Just as important to an overall sustainability strategy are the materials used to create the building; their impacts to the environment, the workers manufacturing them, and the final environment in which they are placed. Intentional material selections include the avoidance of vinyl, such as using linoleum for flooring. Vinyl materials are avoided due to the toxic processes required in the manufacturing process, the pollution created when disposed of, and the risk from endocrine disruptors, asthmagens, and carcinogens to occupants during use. Other chemicals of concern that will be avoided are chemical flame retardants, antimicrobials, and PFAS. All materials are vetted through a firm database for health and environmental impacts. Each material specified for this project will be evaluated for health risks via HPDs or similar disclosures, for off gassing via VOC emissions test reports, and environmental impacts via EPDs.

In addition to careful material selections, other wellness features include daylighting, nature linked biophilic elements, universal design, and adjustable lighting. The indoor environment is further improved by displacement ventilation that has better thermal comfort, less noise, and higher indoor air quality than an overhead mixing system.

Green Schools Program

The MSBA's Green Schools Program was updated in June 2023. The new policy requires all MSBA projects to register and achieve the Silver certification level of the most recent version of LEED BD+C Schools (LEED-S) or Verified certification for NE-CHPS. In addition, specific amount of points related to indoor air quality are required. Lastly, the project must meet the minimum energy efficiency requirements of the 225 CMR 23 Stretch Energy Code. The district has selected to follow the LEED BD+C Schools rating system for this project.

The updated MSBA Green Schools Program provides additional reimbursement to a district to electrify the building systems and further improve indoor air quality for new construction and major renovation/ addition projects. For an additional 3% reimbursement, projects must meet the 225 CMR 23 Appendix CC Municipal Opt-in Specialized Energy Code which focuses on electrification. For an additional 1% reimbursement, projects must achieve a minimum of 5 of 7 points in the LEED credits related to indoor air quality. This project is targeting both strategies for 4% additional reimbursement.

There are currently two compliance pathways for schools in the Stretch Energy Code, the TEDI Path or Certified Passive House Performance Path. Both pathways are intended by DOER to result in similar levels of performance and building system design. The project will be pursuing the TEDI Path under the Stretch Code. In addition to the provisions of the Stretch Code, one of three paths for electrification must be selected from the Opt-in Specialized Energy Code. The project has selected the All-electric Path.

LEED BD+C Schools Rating System

The current applicable LEED rating system is LEED v4 Building Design and Construction: Schools. Points from LEED v4.1 will be substituted as relevant to the project. For a LEED BD+C Schools Silver design, a project must satisfy all prerequisites and earn a minimum of 50 points of 110 points. The LEED Schools rating system is appropriate for buildings made up of core and ancillary learning spaces on K-12 school grounds. LEED BD+ C Schools certifications are awarded according to the following scale: Certified 40—49 points, Silver 50—59 points, Gold 60—79 points, Platinum 80—110 points. The LEED Green Building Rating Systems address these topics: Integrative Progress, Location and Transportation, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, Innovation, and Regional Priorities.

The project LEED scorecard is currently tracking 55 points with an additional 19 points that will continue to be evaluated as the design progresses.

LEED v4/4.1 for BD+C: Schools

Project Checklist

all credits will follow v4.1 criteria unless otherwise noted

Project Name: Southborough Neary School

Date: 12/20/2024

Prepared By: Arrowstreet

Y	?	N			Possible
	1		Credit 1	Integrative Process	1

2		13	Location and Transportation		15
		na	Credit 1	LEED for Neighborhood Development Location	15
1			Credit 2	v4 Sensitive Land Protection	1
		2	Credit 3	v4 High Priority Site	2
		5	Credit 4	v4 Surrounding Density and Diverse Uses	5
		4	Credit 5	Access to Quality Transit	4
		1	Credit 6	Bicycle Facilities	1
		1	Credit 7	Reduced Parking Footprint	1
1			Credit 8	Electric Vehicles	1

7	2	3	Sustainable Sites		12
Y			Prereq 1	Construction Activity Pollution Prevention	Required
Y			Prereq 2	Environmental Site Assessment	Required
1			Credit 1	v4 Site Assessment	1
		2	Credit 2	Protect or Restore Habitat	2
	1		Credit 3	v4 Open Space	1
2	1		Credit 4	Rainwater Management	3
2			Credit 5	v4 Heat Island Reduction	2
1			Credit 6	v4 Light Pollution Reduction	1
		1	Credit 7	Site Master Plan	1
1			Credit 8	Joint Use of Facilities	1

6	3	3	Water Efficiency		12
Y			Prereq 1	Outdoor Water Use Reduction	Required
Y			Prereq 2	Indoor Water Use Reduction	Required
Y			Prereq 3	Building-Level Water Metering	Required
2			Credit 1	Outdoor Water Use Reduction	2
2	2	3	Credit 2	Indoor Water Use Reduction	7
1	1		Credit 3	Optimize Process Water Use	2
1			Credit 4	Water Metering	1

18	4	9	Energy and Atmosphere		31
Y			Prereq 1	Fundamental Commissioning and Verification	Required
Y			Prereq 2	Minimum Energy Performance	Required
Y			Prereq 3	Building-Level Energy Metering	Required
Y			Prereq 4	Fundamental Refrigerant Management	Required
6			Credit 1	Enhanced Commissioning	6
12		4	Credit 2	Optimize Energy Performance	16
	1		Credit 3	Advanced Energy Metering	1
	2		Credit 4	Grid Harmonization	2
		5	Credit 5	Renewable Energy	5
	1		Credit 6	Enhanced Refrigerant Management	1

5	3	5	Materials and Resources		13
Y			Prereq 1	Storage and Collection of Recyclables	Required
Y			Prereq 2	Construction and Demolition Waste Management Planning	Required
1	1	3	Credit 1	Building Life-Cycle Impact Reduction	5
1		1	Credit 2	Building Product Disclosure and Optimization - EPDs	2
	1	1	Credit 3	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
2			Credit 4	Building Product Disclosure and Optimization - Material Ingredients	2
1	1		Credit 5	v4 Construction and Demolition Waste Management	2

9	5	2	Indoor Environmental Quality		16
Y			Prereq 1	Minimum Indoor Air Quality Performance	Required
Y			Prereq 2	Environmental Tobacco Smoke Control	Required
Y			Prereq 3	Minimum Acoustic Performance	Required
2			Credit 1	Enhanced Indoor Air Quality Strategies	2
2	1		Credit 2	Low-Emitting Materials	3
1			Credit 3	Construction Indoor Air Quality Management Plan	1
1	1		Credit 4	Indoor Air Quality Assessment	2
	1		Credit 5	Thermal Comfort	1
1		1	Credit 6	Interior Lighting	2
1	1	1	Credit 7	Daylight	3
1			Credit 8	Quality Views	1
	1		Credit 9	Acoustic Performance	1

6			Innovation		6
1			Credit 1.1	Exemplary Performance: EPDs	1
1			Credit 1.2	Pilot Credit: Acoustical performance - exterior noise contro	1
1			Credit 1.3	Innovation: Design for Active Occupants	1
1			Credit 1.4	Innovation: Green Building Education	1
1			Credit 1.5	Exemplary Performance: HPDs	1
1			Credit 2	LEED Accredited Professional	1

2	1	1	Regional Priority		4
1			Credit 1	Optimize Energy Performance Threshold 8pt	1
	1		Credit 2	Building Life-Cycle Impact Reduction Threshold 2pt	1
		1	Credit 3	Renewable Energy Threshold 2pt	1
1			Credit 4	Outdoor Water Use Reduction	1

55	19	36	TOTALS	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

ARROWSTREET

25 February 2025

Ms. Maria Caprigno
Project Coordinator
Massachusetts School Building Authority
40 Broad Street, Suite 50
Boston, MA 02109

Margaret A. Neary Elementary School / 23072

Town of Southborough
Margaret A. Neary Elementary School
Southborough, Massachusetts

Dear Ms. Caprigno,

This is an acknowledgement that the Town of Southborough has identified a goal of 4% additional reimbursement from the MSBA High Efficiency Green School Program. As their Designer, I have submitted a completed LEED for Schools checklist showing all prerequisites and attempted credits, which will be further evaluated and developed in subsequent phases of the project to meet that goal. This is achieved via an additional 3% reimbursement for meeting the energy code requirements described in the Specialized Energy Code, and 1% for providing a minimum of 5 points in the LEED indoor air quality requirements.

The scope of work for this project will include construction elements and performance tasks to achieve that goal, and all subsequent documents, including but not limited to, specifications, drawings, and cost estimates will match the scope of work to the LEED requirements outlined in the submitted checklist.

Sincerely,

ARROWSTREET

Laurence Spang, AIA, LEED AP
Principal

Accessibility

Code Red Consultants have reviewed the project for accessibility concerns. As a primarily new construction project, the proposed project will be designed to meet all applicable regulations as defined by the Massachusetts Architectural Access Board (MAAB).

The building will be designed to meet all codes and regulations required by authorities having jurisdiction. The building and site will be designed to meet accessibility requirements defined by MAAB Regulations and the Americans with Disabilities Act. Accessibility code compliance will include the layout of accessible spaces, ADA compliant elevator, compliant openings, signage, millwork, and plumbing fixtures and compliant sidewalks, roadways and parking spaces.

Room Data Sheets

Refer to Appendix K: Room Data Sheets for the complete set of Room Data Sheets.

Proposed Construction Methodology

CM-at-Risk is a team-oriented and “open book” approach to project delivery. This is a good fit for the Margaret A. Neary Elementary School Project which includes critical schedule goals and construction of a new building. The project team has significant experience with the CM-at-Risk construction delivery method and is in complete alignment with the process.

From our experience, other inherent benefits to Owners include:

- Expedited project schedule and transparent project delivery.
- Implementation of early release packages.
- Early cost input/validation from Construction Manager (CM).
- Improved control of the quality of work.
- Enhanced value engineering review.
- Flexibility in adjusting building elements as design is completed.
- Mitigate subcontractor claims on the project.
- CM input regarding constructibility.
- Increased on-site project management.
- Site safety and logistics plans developed/ implemented early with Owner's input.

Skanska USA Inc. and Arrowstreet Inc. described the criteria and analysis used by the Owner’s Project Manager, in conjunction with the Designer, to compare the construction delivery methods provided in M.G.L. Chapters 149 and 149A for the Proposed Project. A PowerPoint presentation was made to the School Building Committee on November 21, 2024, reviewing the relative advantages and disadvantages associated with each of the construction delivery methods.

A motion was made and seconded and the District elected to proceed under the CM at Risk construction delivery methodology, and passed unanimously. The November 15, 2022, meeting minutes are included as part of this package for record.

The application for authorization to proceed with the CM at Risk construction delivery method was submitted to the Office of The Inspector General on January 29, 2025. The notice to proceed is expected to be received by the Office of The Inspector General within 60 days of the submission.

The OPM Confirms that cost estimates, proposed project schedule, estimated reimbursement rate, and Total Project Budget Spreadsheet reflect the selected construction delivery method. Following the notice to proceed, the district will designate a CM Application Review Subcommittee, issue a Request for Qualifications, will work alongside the project team to review CM qualifications, then issue a Request for Proposal to the qualified CM firms. CM interviews will be conducted in May 2025. Selection and negotiation will occur in early June 2025.

District's Anticipated Reimbursement Rate

****TO BE PROVIDED BY OPM****

Updated Project Work Plan

This section contains updates to the Project Directory, Roles and Responsibilities, Communications and Document Control Procedures, Designer's Work Plan, and Project Schedule from the Owner's Project Manager.

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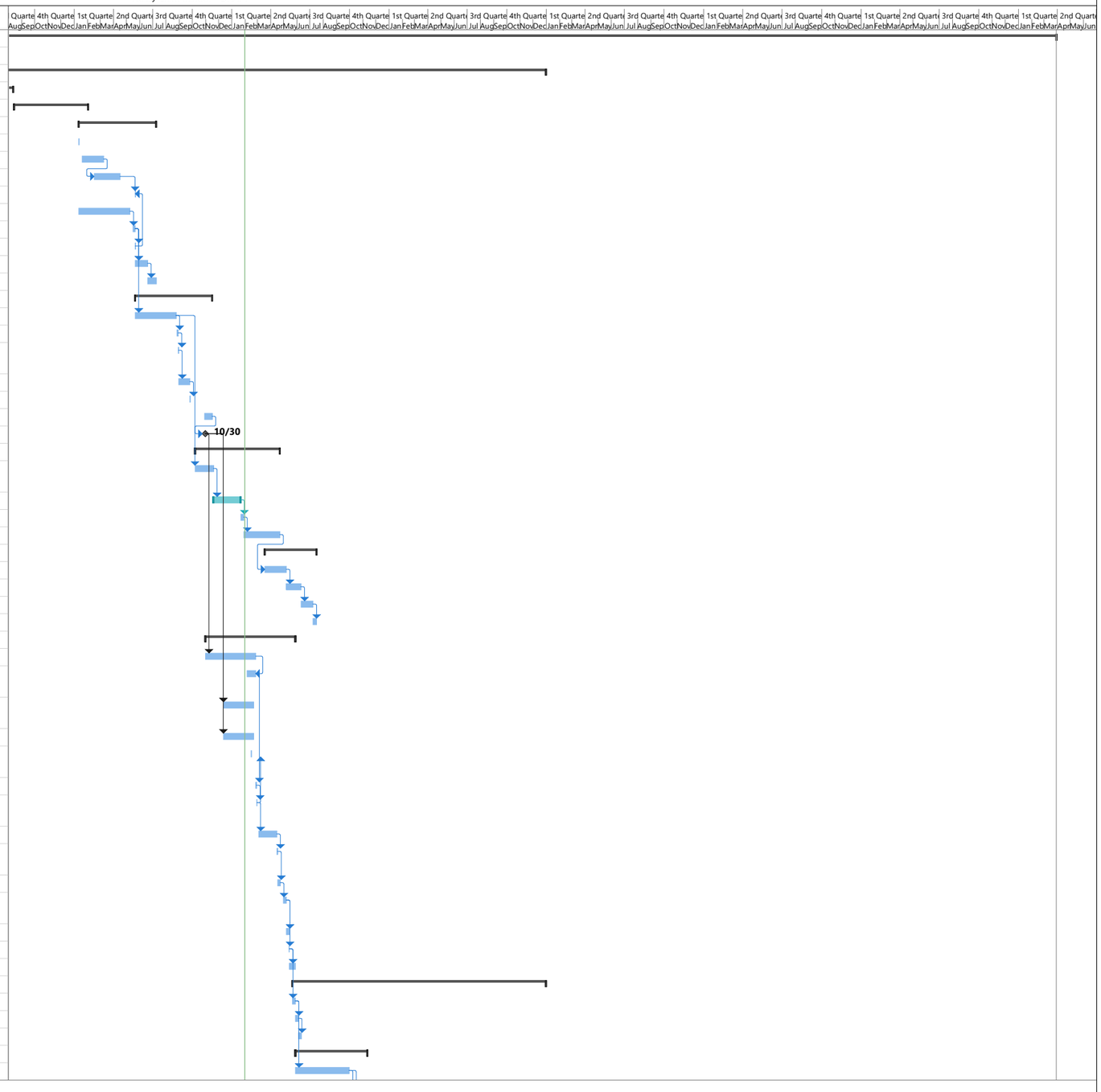
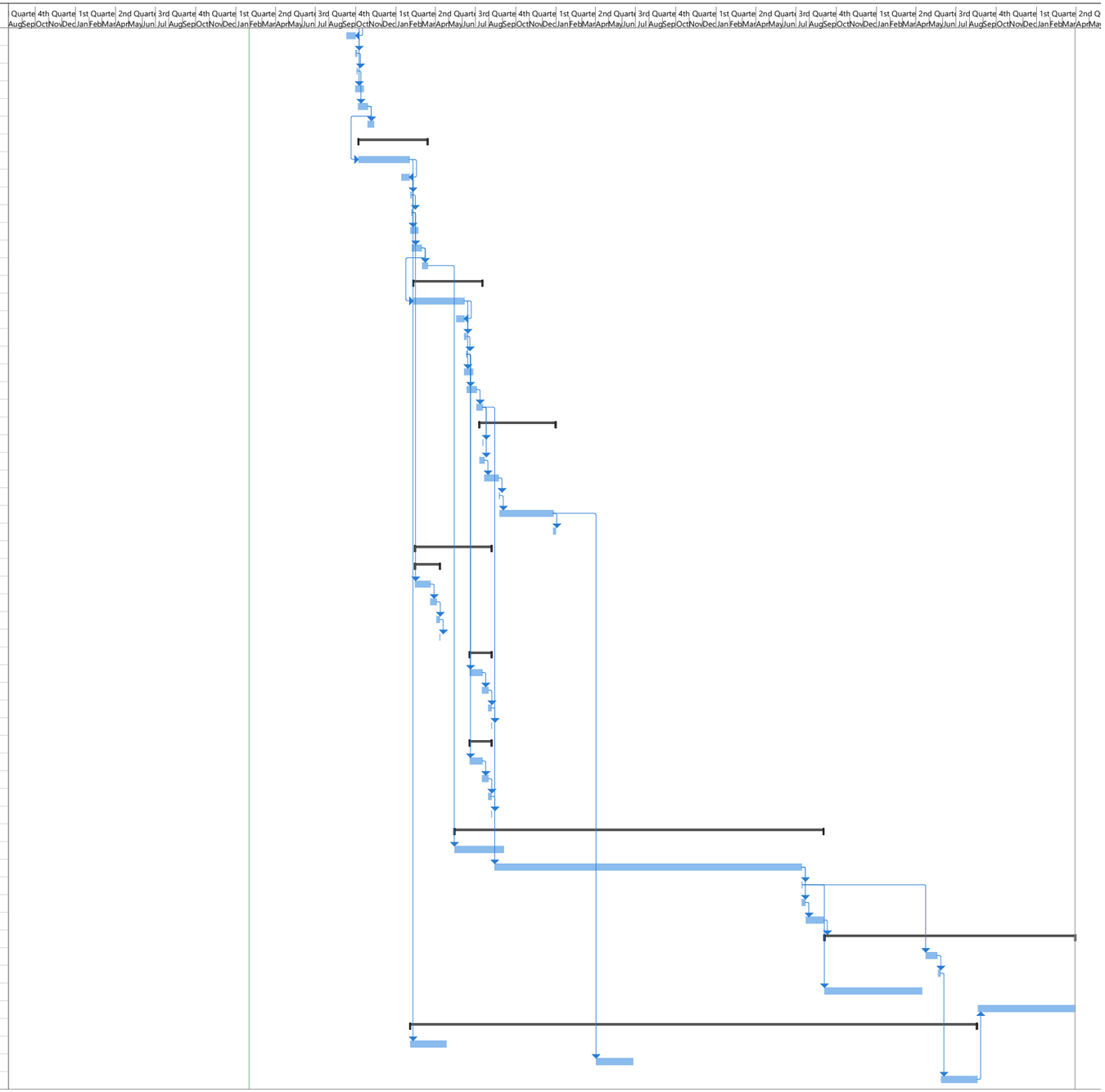
Neary Elem School - DRAFT

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1		**Neary Project**	**1825 days**	**Mon 4/3/23**	**Fri 3/29/30**		
2		**Module 1 - Eligibility Period**	**22 days**	**Mon 4/3/23**	**Tue 5/2/23**		
5		**Module 2 - Forming the Project Team**	**956 days**	**Wed 5/3/23**	**Wed 12/30/26**		
6		**Owners Project Manager Selection**	**73 days**	**Wed 5/3/23**	**Fri 8/11/23**		
10		**Designer Selection**	**124 days**	**Mon 8/14/23**	**Thu 2/1/24**		
29		**Module 3.1: Feasibility Study - Preliminary Design Progr**	**128 days**	**Thu 1/11/24**	**Mon 7/8/24**		
30		Kick-off Meeting (District/Project Team and MSBA)	1 day	Thu 1/11/24	Thu 1/11/24	26	
31		Educational Planner: Visioning Sessions	36 days	Fri 1/19/24	Fri 3/8/24		
32		Update Educational Plan for MSBA/DESE Review	42 days	Fri 2/16/24	Mon 4/15/24	31FS-16 days	
33		Submit Education Plan to MSBA	1 day	Tue 5/21/24	Tue 5/21/24	32,36FF	
34		PDP Submittal Development	85 days	Thu 1/11/24	Wed 5/8/24	26	
35		**Approval of PDP (SBC Meeting)**	3 days	Thu 5/16/24	Mon 5/20/24	34	
36		PDP Submittal to MSBA	1 day	Tue 5/21/24	Tue 5/21/24	35	
37		MSBA Review of PDP	21 days	Tue 5/21/24	Tue 6/18/24	35	
38		Address PDP Comments (14 Days to Respond)	14 days	Wed 6/19/24	Mon 7/8/24	37	
39		**Module 3.2: Preferred Schematic Report**	**129 days**	**Tue 5/21/24**	**Fri 11/15/24**		
40		PSR Submittal Development	69 days	Tue 5/21/24	Fri 8/23/24	35	
41		**Approval of PSR (SBC Meeting)**	3 days	Mon 8/26/24	Wed 8/28/24	40	
42		PSR Submittal Date to MSBA (no sooner than 8 weeks after PDP) (Need to submit by 8/29 for 10/30)	1 day	Thu 8/29/24	Thu 8/29/24	41	
43		MSBA Review of PSR	18 days	Fri 8/30/24	Tue 9/24/24	42	
44		Facility Assessment Subcommittee Presentation - 9/2	1 day	Wed 9/25/24	Wed 9/25/24	43FS-10 days	
45		Address MSBA PSR Comments (14 Days to Respond)	14 days	Tue 10/29/24	Fri 11/15/24		
46		MSBA Board Meeting - PSR Approval	1 day	Wed 10/30/24	Wed 10/30/24	45	
47		**Project Delivery Method**	**141 days**	**Mon 10/7/24**	**Mon 4/21/25**		
48		Project Delivery Method options presentation to SBC and vote	31 days	Mon 10/7/24	Mon 11/18/24	40FS+30 days	
49		OPM Prepares CM At-Risk application	45 days	Tue 11/19/24	Mon 1/20/25	48	
50		OPM submit applications to Office of Inspector Genera	1 wk	Tue 1/21/25	Mon 1/27/25	49	
51		OIG review (up to 60 days)	60 days	Tue 1/28/25	Mon 4/21/25	50	
52		**Procurement of CM**	**86 days**	**Tue 3/18/25**	**Tue 7/15/25**		
53		Prepare RFQ	36 days	Tue 3/18/25	Tue 5/6/25	51FS-25 days	
54		Advertise, SOQ Received	24 days	Wed 5/7/25	Mon 6/9/25	53	
55		Evaluate SOQ and interviews	20 days	Tue 6/10/25	Mon 7/7/25	54	
56		Recommend CM At-Risk to SBC and Award and NTP	6 days	Tue 7/8/25	Tue 7/15/25	55	
57		**Module 4 - Schematic Design (SD)**	**149 days**	**Thu 10/31/24**	**Tue 5/27/25**		
58		SD Preparation	83 days	Thu 10/31/24	Mon 2/24/25	46	
59		SD Documents for Cost Estimate/Reconciliation/VE if Required	14 days	Wed 2/5/25	Mon 2/24/25	58FF	
60		Designer Proposal - Develop, Review and Finalize with District	50 days	Thu 12/12/24	Wed 2/19/25	46FS+30 days	
61		OPM Proposal - Develop, Review and Finalize with Dist	50 days	Thu 12/12/24	Wed 2/19/25	46FS+30 days	
62		OPM SD Notification email to MSBA 10 days prior to SD Submission	1 day	Fri 2/14/25	Fri 2/14/25	64FS-10 days	
63		**Approval of SD and Budget (Joint Meeting SBC and S**	2 days	Tue 2/25/25	Wed 2/26/25	59	
64		SD Submittal to MSBA (must submit by 2/27/25 for 4/30 Board Date)	1 day	Thu 2/27/25	Thu 2/27/25	63	
65		MSBA SD Review	30 days	Tue 3/4/25	Mon 4/14/25	64FS+2 days	
66		MSBA Project Scope & Budget Conference w/ District - Date TBD	2 days	Tue 4/15/25	Wed 4/16/25	65	
67		Address MSBA SD Review Comments	4 days	Thu 4/17/25	Tue 4/22/25	66	
68		MSBA Board Meeting - Project Scope & Budget (PS&B) Approval - 120 calendar days for Town 's	5 days	Wed 4/30/25	Tue 5/6/25	67	
69		MSBA Send PS&B Agreement	5 days	Wed 5/7/25	Tue 5/13/25	68	
70		**Town Meeting**	1 day	Tue 5/13/25	Tue 5/13/25	68FS+4 days	
71		PS&B Agreement and Final PFA Executed	10 days	Wed 5/14/25	Tue 5/27/25	70	
72		**Module 6 - DD/CD**	**421 days**	**Wed 5/21/25**	**Wed 12/30/26**		
73		SBC Vote to Amend OPM and Designer Contracts	5 days	Wed 5/21/25	Tue 5/27/25	70FS+5 days	
74		Send amended OPM and Designer Contracts to MSBA	5 days	Wed 5/28/25	Tue 6/3/25	73	
75		Schedule MSBA Kick-off Meeting	5 days	Wed 6/4/25	Tue 6/10/25	74	
76		**Design Development Phase**	**119 days**	**Wed 5/28/25**	**Mon 11/10/25**		
77		DD develoment	89 days	Wed 5/28/25	Mon 9/29/25	73	



Page 1

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
78		100% DD to estimators	14 days	Wed 9/10/25	Mon 9/29/25	77FF	
79		Approval of 100% DD (SBC Meeting)	3 days	Tue 9/30/25	Thu 10/2/25	78	
80		100% DD to MSBA	1 day	Fri 10/3/25	Fri 10/3/25	79	
81		Commissioning Agent Comments on 100% DD	14 days	Tue 9/30/25	Fri 10/17/25	77	
82		MSBA Reviews 100% DD comments (21 calendar da	16 days	Mon 10/6/25	Mon 10/27/25	80	
83		Address 100% DD Review Comments (14 calendar d	10 days	Tue 10/28/25	Mon 11/10/25	82	
84		**60% CD Phase**	**114 days**	**Tue 10/7/25**	**Fri 3/13/26**		
85		60% CD development	84 days	Tue 10/7/25	Fri 1/30/26	82FS-15 days	
86		60% CD to estimators	14 days	Tue 1/13/26	Fri 1/30/26	85FF	
87		Approval of 60% CD (SBC Meeting)	3 days	Mon 2/2/26	Wed 2/4/26	86	
88		60% CD to MSBA	1 day	Thu 2/5/26	Thu 2/5/26	87	
89		Commission Agent Comments on 60% CD	14 days	Mon 2/2/26	Thu 2/19/26	85	
90		MSBA Reviews 60% CD comments (21 calendar days	16 days	Fri 2/6/26	Fri 2/27/26	88	
91		Address 60% CD Review Comments (14 calendar da	10 days	Mon 3/2/26	Fri 3/13/26	90	
92		**90% CD Phase**	**114 days**	**Mon 2/9/26**	**Thu 7/16/26**		
93		90% CD development	84 days	Mon 2/9/26	Thu 6/4/26	90FS-15 days	
94		90% CD to estimators	14 days	Mon 5/18/26	Thu 6/4/26	93FF	
95		Approval of 90% CD (SBC Meeting)	3 days	Fri 6/5/26	Tue 6/9/26	94	
96		90% CD to MSBA	1 day	Wed 6/10/26	Wed 6/10/26	95	
97		Commissioning Agent Comments on 90% CD	14 days	Fri 6/5/26	Wed 6/24/26	93	
98		MSBA Reviews 90% CD comments (21 calendar days	16 days	Thu 6/11/26	Thu 7/2/26	96	
99		Address 90% DD Review Comments (14 calendar da	10 days	Fri 7/3/26	Thu 7/16/26	98	
100		**100% CD/ Bid Package Activities**	**124 days**	**Fri 7/10/26**	**Wed 12/30/26**		
101		100% CD to CM	1 day	Fri 7/17/26	Fri 7/17/26	99	
102		Advertisement for Filed Sub-Trades	7 days	Fri 7/10/26	Mon 7/20/26	99FS-5 days	
103		Filed Sub-Trade Bidding	24 days	Tue 7/21/26	Fri 8/21/26	102	
104		Filed Sub-Trade Bids due	1 day	Mon 8/24/26	Mon 8/24/26	103	
105		Establish GMP and Finalize GMP	88 days	Tue 8/25/26	Thu 12/24/26	104	
106		SBC approval of final GMP	4 days	Fri 12/25/26	Wed 12/30/26	105	
107		**Early Bid Packages**	**125 days**	**Fri 2/13/26**	**Thu 8/6/26**		
108		**EBP #1 Site Enabling/Demo Existing Building**	**41 days**	**Fri 2/13/26**	**Fri 4/10/26**		
109		Issue bid package	5 wks	Fri 2/13/26	Thu 3/19/26	88FS+1 wk	
110		Bids Due/Descope	2 wks	Fri 3/20/26	Thu 4/2/26	109	
111		SBC Approval to award	1 wk	Fri 4/3/26	Thu 4/9/26	110	
112		Contract Award: Site Enabling	1 day	Fri 4/10/26	Fri 4/10/26	111	
113		**EBP #2 Sitework, Concrete, Elevator**	**36 days**	**Thu 6/18/26**	**Thu 8/6/26**		
114		Issue 90% CD package	4 wks	Thu 6/18/26	Wed 7/15/26	96FS+1 wk	
115		Bids Due/Descope	2 wks	Thu 7/16/26	Wed 7/29/26	114	
116		SBC Approval to award	1 wk	Thu 7/30/26	Wed 8/5/26	115	
117		Contract Award: Sitework, Concrete, Elevator	1 day	Thu 8/6/26	Thu 8/6/26	116	
118		**EBP #3 Structural Steel**	**36 days**	**Thu 6/18/26**	**Thu 8/6/26**		
119		Issue 90% CD package	4 wks	Thu 6/18/26	Wed 7/15/26	96FS+1 wk	
120		Bids Due/Descope	2 wks	Thu 7/16/26	Wed 7/29/26	119	
121		SBC Approval to award	1 wk	Thu 7/30/26	Wed 8/5/26	120	
122		Contract Award: Structural Steel	1 day	Thu 8/6/26	Thu 8/6/26	121	
123		**Module 7 Construction**	**602 days**	**Thu 5/14/26**	**Fri 9/1/28**		
124		Construction - Site Enabling and Demo Existing Bldg.	80 days	Thu 5/14/26	Wed 9/2/26	91FS+43 days	
125		Construction - Main Building	500 days	Fri 8/14/26	Thu 7/13/28	99FS+20 days	
126		Substantial Completion	1 day	Fri 7/14/28	Fri 7/14/28	125	
127		TCO	6 days	Fri 7/14/28	Fri 7/21/28	125	
128		Move-In	30 days	Mon 7/24/28	Fri 9/1/28	127	
129		**Module 8 Close-Out**	**410 days**	**Mon 9/4/28**	**Fri 3/29/30**	**128**	
130		Cx - 10 months after Substantial Completion)	4 wks	Mon 4/23/29	Fri 5/18/29	126FS+10 mons	
131		Final Cx report to MSBA/USGB	1 wk	Mon 5/21/29	Fri 5/25/29	130	
132		Close-out documentation	8 mons	Mon 9/4/28	Fri 4/13/29	126	
133		Final Reimbursement Request to MSBA	160 days	Mon 8/20/29	Fri 3/29/30	137	
134		**Sustainable Design Milestone**	**925 days**	**Mon 2/2/26**	**Fri 8/17/29**		
135		Sustainable Design, LEED Project Registration	12 wks	Mon 2/2/26	Fri 4/24/26	86	
136		Provisional review submittal 3 months after bidding	12 wks	Fri 4/2/27	Thu 6/24/27	105FS+70 days	
137		USGBC Final Review Submission (allow 12 weeks)	12 wks	Mon 5/28/29	Fri 8/17/29	131	



**PROJECT BUDGET
TO BE PROVIDED BY OPM**

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**RECONCILIATION
TO BE PROVIDED BY OPM**

Town of Southborough - Margaret A. Neary Elementary School

Project Directory

Name	Title	Office Phone	E-mail
Owner's Project Manager			
Skanska			
101 Seaport Blvd, Boston, MA 02210			
Dale Caldwell	Principal in Charge		dale.caldwell@skanska.com
Jim Burrows	Project Director		jim.burrows@skanska.com
Sy Nguyen	Project Manager		sy.nguyen@skanska.com
Jessica Mendez	Assistant PM		jessica.mendez@skanska.com
Vincent Vadeboncoeur	Field Rep		vincent.vadeboncoeur@skanska.com
Owner			
Neary Building Committee - Voting Members			
Jason Malinowski	Chair & Capital Planning Rep.		jmalinowski@southboroughma.com
Denise Eddy	Vice Chair & Citizen-at-large		deddy@southboroughma.com
Andrew Pfaff	Clerk & Advisory Comm. Rep.		apfaff@southboroughma.com
Roger Challen	School Comm. Rep.		rchallen@nsboro.k12.ma.us
Kathryn Cook	Select Board Rep.		kcook@southboroughma.com
Mark Davis	Citizen-at-large		mdavis@southboroughma.com
Christopher Evers	Citizen-at-large		cevers@southboroughma.com
Neary Building Committee - Non-Voting Members			
Brian Ballantine	Town Finance Director		bballantine@southboroughma.com
Keith Lavoie	Asst. Superintent of Operations		klavoie@nsboro.k12.ma.us
Gregory Martineau	Superintendent of Schools		gmartineau@nsboro.k12.ma.us
Kathleen Valenti	Neary School Principal		kvalenti@nsboro.k12.ma.us
Steve Mucci	Woodward School Principal		smucci@nsboro.k12.ma.us
Rebecca Pellegrino	School Finance Director		rpellegrino@nsboro.k12.ma.us
Mark Purple	Town Administrator		mpurple@southboroughma.com
Stefanie Reinhorn	Asst. Superintent of Teaching/Learning		sreinhorn@nsboro.k12.ma.us
The Public Schools of Northborough and Southborough			
School Department			
53 Parkerville Road, Southborough, MA 01772			
Gregory Martineau	Superintendent of Schools	(508) 486-5115 x71251	gmartineau@nsboro.k12.ma.us
Stefanie Reinhorn	Asst. Superintent of Teaching/Learning	(508) 486-5115 x71211	sreinhorn@nsboro.k12.ma.us
Cheryl Lepore	Executive Administrator	(508) 486-5115 x71251	clepore@nsboro.k12.ma.us
Keith Lavoie	Assistant Superintendent of Operations	(508) 486-5115 x71216	klavoie@nsboro.k12.ma.us
Kathleen Valenti	Neary School Principal	(508) 481-2300 x62103	kvalenti@nsboro.k12.ma.us
Steve Mucci	Woodward School Principal		smucci@nsboro.k12.ma.us
Clayton Ryan	Finn School Principal		cryan@nsboro.k12.ma.us
Marie Alan	Director of Student Support	(508) 486-5115 x71221	malan@nsboro.k12.ma.us
Cathy Carmignani	Director of Institutional Technology & Digital Learning	(508) 351-7010 x1057	ccarmignani@nsboro.k12.ma.us
Mary Ellen Duggan	District Wellness Coordinator and Nurse Leader	(508) 351-7010 x1245	mduggan@nsboro.k12.ma.us
Selvi Oyola	Director of Multilingual Learners and Equity	(508) 486-5115 x71242	soyola@nsboro.k12.ma.us
Megan Kelty	English Language Arts Coordinator - PreK-8		mkelty@nsboro.k12.ma.us
Kathy Lizotte	Math Coordinator - PreK-5		klizotte@nsboro.k12.ma.us
Jennifer Henry	Early Childhood Administrator	(508) 485-3176 x63106	jhenry@nsboro.k12.ma.us
Rebecca Pellegrino	Asst. Superintendent of Finance	(508) 486-5115 x71227	rpellegrino@nsboro.k12.ma.us
Kyle Parson	Food Services Manager	(508) 486-5115 x71228	kparson@nsboro.k12.ma.us
Jon Parent	Director of Information Technology	(508) 351-7010 x2222	jparent@nsboro.k12.ma.us
Town of Southborough			
Southborough Town House			
17 Common Street, Southborough, MA			
Kathryn Cook	Town Select Board Chair		kcook@southboroughma.com
James Hegarty	Town Clerk		jhegarty@southboroughma.com
Melissa Danza	Conservation Commission Agent		mdanza@southboroughma.com
Kaina Quinn	Planning & Zoning Department		kquinn@southboroughma.com
Jason Montijo	Town Technology Manager	(508) 485-0710 x3021	jmontijo@southboroughma.com
Mark Purple	Town Administrator & Public Information		mpurple@southboroughma.com
John Parent	Facilities		jparent@southboroughma.com
William Cundiff	Department of Public Works Superintendent		wcundiff@southboroughma.com
David Williams	Chair - Zoning Board of Appeals		dwilliams@southboroughma.com
Meme Luttrell	Chair - Town Planning Board		mluttrell@southboroughma.com
William Sines	Chair - Public Accessibility Committee		wsines@southboroughma.com
Kevin Miller	Chair - Historical Commission		kmiller@southboroughma.com
Frederica Gillespie	Chair - Open Space Preservation Commission		fgillespie@southboroughma.com
Chelsea Malinowski	Chair - Board of Health		cmalinowski@southboroughma.com
Jeffrey Klein	Chair - Board of Assessors		jklein@southborougma.com
Mark Spruill	Emergency Management Specialist		mspruill@southboroughma.com
Andrew Puntini	Fire Department Chief	508-485-3235	apuntini@southboroughma.com
Ryan Newell	Chief of Police	508-485-2121	rnewell@southboroughma.com
Scott Navaroli	EMS		snavaroli@southboroughma.com

Town of Southborough - Margaret A. Neary Elementary School

Project Directory

Name	Title	Office Phone	Cell Phone	E-mail
Architect				
Arrowstreet				
10 Post Office Square, Suite 700N, Boston, MA 02109				
Larry Spang	Principal	(617) 666-7078	(617) 921-8769	spang@arrowstreet.com
Katy Lillich	Project Manager	(617) 666-7019		lillich@arrowstreet.com
Tina SooHoo	Project Architect	(617) 666-7091		soohoo@arrowstreet.com
Andy Rodrigue	Project Architect	(617) 666-7032		rodrigue@arrowstreet.com
Architect's Consultants				
Educational Consultant				
MLP INTEGRATED DESIGN				
Mike Pirollo	Educational Consutlant	(617) 733-0847		
Building Code				
Code Red Consultants				
154 Turnpike Rd., Suite 200, Southborough, MA 01772				
Paul Moan	Principal – Sr Project Manager	(617) 500-7633		paulm@crcfire.com
Kevin Lynch	Project Manager			klynch@crcfire.com
Accessbility				
KMA				
154 Turnpike Rd., Suite 200, Southborough, MA 01772				
Josh Safdie	Managing Principal			jsafdie@kmaccess.com
J George				jgeorge@kmaccess.com
Hazardous Materials, Geo-Environmental, & Environmental Planning				
PEER Consulting PC				
99 South Bedford Street, Suite 200, Burlington, MA 01803				
David Gorden		(781) 238-8880		GordenD@peercpc.com
Geotechnical				
Lahlaf Geotechnical Consulting				
23 McGinness Way, Billerica, MA 01821				
Madjid Lahlaf	Principal Engineer	(978) 330-5912	(781) 771-1933	madjid.lahlaf@lgcinc.net
Survey				
Beals and Thomas, Inc.				
144 Turnpike Road, Southborough, MA 01772				
Mark Benson	Associate	(508) 366-0560	(508) 341-3394	mbenson@bealsandthomas.com
Existing Conditions				
Pointknown				
418 Massachisetts Avenue, Arlington, MA 02474				
Jim Foster				jfoster@pointknown.com
Christina Annunziata		(617) 575-2222		cannunziata@pointknown.com
Traffic				
MDM Transportation Consultants, Inc				
28 Lord Road, Suite 280, Marlborough, MA 01752				
Robert Michaud, PE	Managing Principal	(508) 303-0370 x1115		rmichaud@mdmtrans.com
Dan Mills	Senior Project Manager			
Civil				
Green International Affiliates, Inc				
100 Ames Pond Drive, Suite 200, Tewksbury, MA 01876				
Danielle H. Spicer, P.E.	Project Manager	(978) 843-5218		jthorne@greenintl.com
Justin Macek		(978) 923-0400		jmacek@greenintl.com
Bryan Vachon		(978) 923-0400		bvachon@greenintl.com
Adel Shahin, PE	Senior Vice President	(978) 923-0400		ashahin@greenintl.com
Landscape Architecture				
Terraink				
7 Central Street, Arlington, MA 02476				
Kellie Connelly	Principal	(781) 316-1595		kconnelly@terraink.com
Jade Cummings	Principal	(781) 316-1595		jcummings@terraink.com
Kelly Ashton	Landscape Architect/CAD Lead	(781) 316-1595		kashton@terraink.com
Liz Thompson	Landscape Designer	(781) 316-1595		ethompson@terraink.com
Halley Murray	Landscape Designer	(781) 316-1595		hmurray@terraink.com

Structural Engineering

Lim Consultants, Inc

6 Pleasant Street, Malden, MA 02148

Christine Ye	Project Principal	(781) 338-9300 x309	(617) 628-7728	cye@limconsultants.com
Pabel Perez-Gonzales	Structural Engineer		(978) 652-6810	pperezg@limconsultants.com

Mechanical, Electrical, Plumbing, Fire Protection, Tech

GGD Consulting Engineers, Inc.

375 Faunce Corner Road, N. Dartmouth, MA 04727

Chris Garcia	Plumbing & Fire Protection	(508) 998-5700		chris_garcia@g-g-d.com
Walter Araujo	Plumbing & Fire Protection	(508) 998-5700		walter_araujo@g-g-d.com
Dave Pereira	Electrical	(508) 998-5700		david_pereira@g-g-d.com
Tony Dacunha	Electrical	(508) 998-5700		adacunha@g-g-d.com
Dom Puniello	Mechanical	(508) 998-5700		dom_puniello@g-g-d.com
Sean Strassell	Mechanical	(508) 998-5700		sean_strassell@g-g-d.com
Jolie Aranjo	Administrative Assistant	(508) 998-5700		jolie_aranjo@g-g-d.com
Keith Lane	Mechanical/BIM Lead	(508) 998-5700		keith_lane@g-g-d.com

Audio Visual / Acoustical

Cavanaugh Tocci Associates, Inc.

327F Boston Post Road, Sudbury, MA 01776

Alex Bagnall	Principal Consultant	(978) 639-4129		abagnall@cavtocci.com
Justyna M. Mazierkowska	BIM Lead			jmazierkowska@cavtocci.com
Max Boucher				mboucher@cavtocci.com
Lincoln Berry	Principal Acoustic Consultant	(978) 443-7871		lberry@cavtocci.com

Specifications

Kalin Associates

21 Eliot Street, Natick, MA 01760

Cynie Linton			(617) 320-9659	clinton@kalinassociates.com

Food Service

Crabtree McGrath Associates, Inc

161 W. Main Street, Georgetown, MA 01833

John Sousa	Principal	(978) 352-8500		jsousa@crabtree-mcgrath.com

Door Hardware

Allegion

77 Wexfod Street, Needham Heights, MA 02494

Kevin McIntyre	Specifier		(413) 537-1870	kevin.mcintyre@allegion.com
Jeff Batick	Regional Manager			jeffrey.batik@allegion.com

Acoustics

Acentech

33 Moulton Street, Cambridge, MA 02138

Rose Mary Su	Principal	(617) 499-8000		rsu@acentech.com
Will Spallino	Consultant			wspallino@acentech.com

Cost Estimating

PM&C

20 Downer Avenue, Suite 1C, Hingham, MA 02043

Peter Bradley	Cost Estimator	(781) 740-8007		peterbradley@pmc-ma.com
Amy Happ	Office Manager			amyhapp@pmc-ma.com

Sustainability & Energy Modeling

Thornton Tomasetti

27 Wormwood St #200, Boston, MA 02210

Xiaoshu (Sunny) Du	Senior Project Director	(207) 245-6074		XDu@ThorntonTomasetti.com
Irmak Turan				ituran@thorntontomasetti.com
Vamshi Gooje				VGooje@ThorntonTomasetti.com;

Security

Pamela Perini Consulting, LLC

591 North Avenue, Wakefield, MA 01880

Pamela Perini, PSP	Principal Secuirty Consultant	(781) 788-6674		pperini@pamelaperiniconsulting.com

DOC CONTROL PROCEDURES TO BE PROVIDED BY OPM

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LOCAL ACTIONS AND APPROVALS

Please find the certified Local Actions and Approvals Certification on the following pages.

The meeting minutes for all Neary School Building Committee Meetingsthat have occurred since the submission of the PSR are on the following pages.

A second community meeting was held in January 2024. A third community meeting is planned for June 2024.

October 29, 2024

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LOCAL ACTIONS CERT.

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APPENDICES

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A: MSBA PSR Comments & Project Team Responses

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B: Educational Plan With Design Responses

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C: Proposed Security Narrative

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D: Preliminary Traffic Analysis

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E: Code Report & Analysis

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ARROWSTREET

F: Geotechnical Report

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G: Geo-envionmental Analysis

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H: Soil Percolation Test

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I: State Site Permit Tracking Worksheet

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ARROWSTREET

J: Resilient Mass Action Team Design Standards Tool Report

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K: Room Data Sheets

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L: Designer's Cost Estimate

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M: OPM's Cost Estimate

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N: Life Cycle Cost Analysis (LCCA)

Arrowstreet inc.
10 post office square
suite 700n
boston ma 02109
617.623.5555

arrowstreet.com