

Town of Concord  
CONCORD MIDDLE SCHOOL BUILDING COMMITTEE  
Committee Charge

**A. Purpose**

The Concord Middle School Building Committee is charged by the Select Board to undertake a Feasibility Study to explore the construction of a single new Middle School Building to replace the two existing facilities. The Committee is also charged to begin the schematic design process for a new school building based on the findings of the Feasibility Study. Funding for the Feasibility and Schematic Design was approved under Article 14 at the 2019 Annual Town Meeting. It is anticipated that the Town will be asked at a later time to approve full design and construction funding for the new school and, should such funding be approved, the Committee shall anticipate serving as the construction oversight body as well. The Committee has final authority on all design decisions and will make recommendations to the Town Manager on all financial, contractual and schedule matters. The Middle School Building Committee shall be the point of contact for all community groups for all issues regarding the project. The Committee shall ensure community engagement throughout the planning and execution of the final design and construction. It is the expectation that there will be multiple opportunities throughout the process to solicit community feedback.

**B. Membership and Operations**

The Middle School Building Committee shall be appointed by the Select Board to coordinate and facilitate the design and possibly the eventual construction of a new Middle School. The committee shall have eighteen voting members. In accordance with Massachusetts School Building Authority requirements, which are subject to revision, the membership shall be as follows:

- Two members or designees of the School Committee
- One member of the Select Board
- Town Manager
- Town Finance Director or designated representative
- Superintendent of Schools
- School Director of Finance & Operations
- School Facilities Manager
- Middle School Principal
- One resident knowledgeable in field of sustainable building design and operation
- Six community residents at-large including at least one with a current school-age child
- Concord Sustainability Director
- One resident knowledgeable in building construction, e.g., general contractor

The community members shall bring as many of the following areas of expertise as possible: general or industrial construction; project management; HVAC, architectural, financial, recreation, environmental sustainability and/or education technology expertise; and a familiarity with green building design.

The Committee shall elect a chair, keep minutes of its deliberations, observe the Open Meeting and Public Records law, and comply with other laws and regulations fostering a free and open discussion of ideas.

Building Committee members shall serve through completion of the project. In the event that any Building Committee member is not able to serve through the completion of the project, the Select Board shall be notified, so an appropriate replacement can be found.

Staff assistance for the committee shall be coordinated through the Town Manager and the Superintendent of Schools.

Committee members will strive to avoid any conflict-of-interest or appearance of a conflict of interest. To this end, members are instructed to advise the Select Board immediately should they be considering employment with or a contract for services with any contractor or subcontractor working on the School project.

### **C. Powers and Duties**

The Middle School Building Committee shall coordinate the feasibility study and design and eventually monitor the construction of the new Middle School building through occupancy, and including the demolition of the old Sanborn building, the construction of playing fields and landscaping, as appropriate. Specific duties will include:

#### **During the Feasibility Study Phase:**

- Develop a process for the selection of the Owner's Project Manager and recommend to the Town Manager the awarding of a contract to the selected OPM;
- Review and approve the RFP for the selection of a qualified professional or firm to conduct the Feasibility Study;
- Review the responses to the RFP, select the person or firm most qualified to perform the work, and recommend to the Town Manager the award of a contract to the selected firm;
- Review the draft Feasibility Study Report and suggest changes and refinements to incorporated in the Final Report;
- Implement a process for selecting a design firm to undertake schematic design for a new Middle School, based on the findings of the Feasibility Study. Interview firms responding to the RFP/RFQ for design services and recommend the selected firm for award of a contract by the Town Manager.

#### **During Design Phase:**

- Assist with the Selection of a Project Manager, who will serve as the Owner's Representative for the project, during both design and construction;
- Issue a Request for Proposals for Design services; interview several designers and make a recommendation to the Town Manager for a contract for design services;
- Review, with a lens of sustainability, the educational specifications as recommended by the School Committee;
- Solicit input from school staff, parents, neighbors of the school and the community as a whole concerning the design of the new building, including any public spaces;
- Foster a discussion of Net Zero construction, and educational and environmental sustainable building design concepts for schools and incorporate, to the extent possible, the Town's goals for Greenhouse Gas Emissions reductions;
- Consider any "lessons learned" or other useful experience gained from earlier school construction projects;
- Ensure the development of an accurate construction cost-estimate to be used when recommending construction funding to Town Meeting and the voters;

- Develop a projected construction schedule to include estimated completion and occupancy dates, timing for the demolition of the existing buildings, and full completion of the project.

During Construction Phase:

- Supervise architect(s) to prepare construction documents and all architectural services during construction;
- Assist the School and Finance Departments in development of documents for Massachusetts School Building Authority (MSBA) reimbursement, if appropriate;
- Review construction bids and recommend a general contractor or contractors to the Town Manager who will approve and execute all contracts;
- Monitor the construction of the building;
- Evaluate for cost and effectiveness all proposed change orders and recommend to the Town Manager approval of change orders;
- Recommend to the Town Manager the payment of contractor requisitions;
- Manage the work of the architectural firm and its consultants and recommend action by the Town Manager as it relates to the firm's contract with the Town, including payments, negotiations and change-orders or contract modifications;
- Ensure that the project comes in on schedule, within budget, and minimizes the expenditure of contingency funds;
- Serve as the point of contact for all individuals and community groups for all issues regarding the project, including but not limited to safety policies and procedures for building and site users, an occupancy plan, communication, etc.;
- Establish regular communication channels with the Town, Middle School families, and neighbors regarding the project progress through periodic notices and public meetings. Actively solicit the comments of neighbors and interested parties by dedicating one meeting early in the design phase to hearing the concerns of neighbors and other interested individuals;
- Provide these same services as they relate to Phase 2, if any, for the removal of the existing Middle School, as appropriate;
- Make a final report to the Select Board and School Committee upon substantial completion of the project. The report shall include information concerning final costs for the project; the status of MSBA reimbursement applications, if any; a list of unfinished projects not included in the as-built plan with an estimated cost and timeline; and any recommendations the Committee may have concerning on-going operation and maintenance of the building. The report may also include any recommendations from the Committee concerning lessons learned from this project that may be applicable to future Town construction projects.

**D. Other Considerations**

The Committee will comply with the provisions of the Open Meeting Law, the Public Records Law, the Conflict of Interest Law and all other applicable laws and regulations of the Commonwealth, as well as all relevant Bylaws and Administrative Policies of the Town.

Communications

In order to ensure a successful building project, the Committee will work with the following individuals and groups:

### The Town Manager

The Town Manager has final approval regarding all financial matters and is responsible for all contracts related to the project. The Middle School Building Committee shall have primary responsibility for making decisions and recommendations related to the project. Therefore, the Committee will:

- Engage the Town Manager throughout project as needed.
- Recommend approval of all changes to schedule and cost to the Town Manager.
- Recommend the payment of all contractor requisitions to the Town Manager.
- Review construction bids and make recommendation of a general contractor to the Town Manager.
- Solicit bids and recommend appropriate consultants/contractors to the Town Manager, including Project Manager and owner representatives.
- Although the Town Manager is the official spokesperson for the Town, the Middle School Building Committee will speak about the building project on behalf of the Town Manager by agreement and where appropriate.
- Expect the Town Manager through the Town Finance Director to maintain and monitor total project cash flow, balance sheet, and budget projections.
- Expect that the Town Manager will designate appropriate channels of communication between Town and School Departments regarding safety, operational, and other issues.
- Ensure that the Project Manager and architect maintain careful records of project activities in order to maximize the opportunity for the Town to secure State funding for a portion of the project costs if possible.
- Maintain regular contact with the Finance Department to ensure proper accounting of all expenditures and maximum opportunity to secure State reimbursement.

### Elected Officials and appointed Committees

The Committee will:

- Report on progress (i.e. budget, schedule, important decisions) to the Select Board and School Committee on a quarterly basis.
- Confirm the School Committee's recommendation on items such as the technology plan where appropriate and within the established budget.
- Update the Finance Committee concerning the financial aspects of the project from time to time. The Committee anticipates that a Finance Committee observer will regularly attend meetings.

### Town and School Staff

The Committee will:

- Expect that the School Superintendent will identify an appropriate interface between the school department and the construction project. The representative of the School Department will be present at Middle School Building Committee meetings and will attend construction meetings where appropriate.
- Expect that the Middle School Principal will attend Committee meetings and construction meetings where appropriate. The Principal will relay problems and issues from staff, families and neighbors for Committee consideration and resolution.

- Expect that the School Department will maintain an organized central file of original and substantive documents throughout the project sufficient to satisfy SBA auditing, if appropriate, as well as Town audit requirements.

The Owners Project Management (OPM) Firm

On behalf of the Town Manager, the Committee shall be responsible to supervise the work of the Owners Project Manager. The Committee will have a designee available to receive questions and issues during site meetings and during normal working hours. Responsibilities for this task may rotate. The OPM will:

- Perform on a day-to-day basis the duties of an Owner’s Representative including safety inspections, construction mitigation, dispute resolution, and move assistance.
- Represent the best interests of the Town of Concord and Middle School Building Committee on a day-to-day basis throughout the project.
- Keep the committee fully informed regarding all matters affecting the successful outcome of the building project, including change orders, missed dates, poor communications, etc., throughout the life of the project.
- Evaluate and make recommendations on requisitions and potential changes in cost and schedule.
- Organize and maintain construction records, shop drawings and files to supplement the Town files at the conclusion of the project. Upon completion, the OPM will provide a digitized set of as-built plans to the Building & Inspections Division, as well as a printed copy.
- Develop regular communications to the community.

The Architectural Firm

The Middle School Building Committee expects that the designer will:

- Attend all appropriate Middle School Building Committee meetings and communicate all necessary information on a timely basis to the Middle School Building Committee and OPM.
- Evaluate Change Order requests.
- Provide requisition approval, construction clarifications and construction observation, among other services, consistent with its contractual requirements.

Construction Reform

The Middle School Building Committee shall keep abreast of any potential reform to construction laws at the State level. The Committee shall review such reforms that may apply to the project and apply them if the Committee determines that they are appropriate and they would reduce costs without causing delay in the schedule.

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Select Board Chair

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Date

*Attachments:*

1. Article 14 - Concord Middle School Feasibility Study - Warrant Article & Vote from 2019 Town Meeting
2. Key Design Principles Middle School - School Feasibility and Design Study



**Town of Concord**  
Office of the Town Clerk  
22 Monument Square  
Concord, Massachusetts 01742-0535

**ANNUAL TOWN MEETING  
APRIL 8, 9, and 10, 2019**

**CONCORD MIDDLE SCHOOL FEASIBILITY STUDY**

**ARTICLE 14.**

**WARRANT ARTICLE**

To determine if the Town will vote to raise and appropriate, or transfer from available funds, or authorize the Town Treasurer with the approval of the Select Board to borrow money by the issuance of bonds or notes under the provisions of Massachusetts General Laws c. 44, the sum of \$1,500,000, or any other sum, to be expended under the direction of the School Committee for a feasibility study to consider the construction of a new middle school, which may be located at 835 Old Marlboro Road, Concord, Massachusetts (the present site of the Sanborn Middle School), provided, however, that this approval shall be contingent upon passage of a Proposition 21/2 debt exclusion referendum under Massachusetts General Laws c. 59, § 21C(k), and further that any premium received by the Town upon the sale of any bonds or notes approved by the vote, less any such premium applied to the payment of the costs of issuance of such bonds or notes, may be applied to the payment of costs approved by this vote in accordance with Massachusetts General Laws c. 44, § 20, thereby reducing the amount authorized to be borrowed to pay such costs by a like amount, or take any other action relative thereto.


**VOTE**

Upon a **MOTION** made by Ms. Bout and duly seconded, the following was **VOTED**:

That the Town appropriate the amount of One Million Five Hundred Thousand Dollars (\$1,500,000) to be expended under the direction of the Town Manager, in consultation with a Concord Middle School Building Committee to be appointed by the Select Board in compliance with M.G.L. c. 71 § 68, to study the feasibility of constructing a new middle school, which may be located at 835 Old Marlboro Road, Concord, Massachusetts (the present site of the Sanborn Middle School), including the schematic design of one or more options and the payment of all costs incidental or related to the feasibility study; and further, that to meet this appropriation the Treasurer, with the approval of the Select Board, is authorized to borrow the appropriated amount pursuant to M.G.L. c. 44, § 7(1), or any other enabling authority; provided, however, that this approval shall be contingent upon passage of a Proposition 2 1/2 debt exclusion referendum under M.G.L. c. 59 § 21C(k), and that any premium received upon the sale of any bonds or notes approved by this vote, less any such premium applied to the payment of the costs of issuance of such bonds or notes, may be applied to the payment of costs approved by this vote in accordance with M.G.L. c. 44, § 20, thereby reducing the amount authorized to be borrowed to pay such costs by a like amount and further, that the feasibility and resulting design specification should be consistent with Concord's sustainability goals and principles.

Passed by an overwhelming margin over two-thirds vote  
April 8, 2019

A True Copy Attest: \_\_\_\_\_

  
Kaari Mai Tari  
Town Clerk

## Key Design Principles<sup>1</sup> (Final) Middle School School Feasibility and Design Study

These Design Principles are a distillation of the key elements of the design approach that was referenced in the Town Meeting Amendment to the Feasibility and Design Study Article and was communicated to the Concord School Committee at Town Meeting. The purpose of these Principles is to provide a sustainability framework that should be followed in the design process.

### **Text of Amendment to Article 14 at Town Meeting and Implications for Design:**

*'The feasibility and resulting design specification shall be consistent with Concord's sustainability principles and with Concord's goals for reducing greenhouse gas emissions, requiring both an all-electric design and Zero Net Energy-ready building and site capabilities. While the Town urges the School Building Committee to conduct its feasibility study with all-electric/ZNE-ready as the preferred design, other alternatives may be considered. The third-party hired to perform this feasibility study and school design should have demonstrated competencies and experience in all-electric/ZNE building design.'*

The implications are twofold: First, the new school building should be fossil-free (all electric). Second, the amount of energy consumed by the school building should be matched by an equivalent amount of energy produced on site ('Net Zero'). Annual kWh consumption on the site = annual PV production from the site (roof, parking lot canopies, etc.).

### **Best In Class Energy Efficiency:**

Net Zero buildings meet the most stringent energy efficiency standards. As such, Net Zero buildings are in a class by themselves, performing significantly better than buildings that simply meet 'code' or which are designated as 'high-performance'. The Energy Use Index (EUI), which measures the energy consumption per square foot, should be used to establish metrics for the design process and distinguishes net zero from 'code' and high performance buildings.<sup>2</sup> The highest, best-in-class efficiency, as *measured by EUI*, is required in order to meet these fundamental Net Zero requirements in a cost effective way.

### **Efficiency Through Passive Solar Design:**

While efficiency in the mechanical systems is important, efforts to reduce building energy requirements start with optimizing the building design to take advantage of the sun for day-lighting and passive heating/cooling. And, the building should be oriented and designed to maximize the exposure of the roof for PV.

### **High-End Building Envelop (Thermal Control Layer):**

The envelope needs to incorporate the highest standards for doors, windows, slab, and roof. Minimizing heat loss is far less expensive than building additional PV capacity on-site to compensate for heat loss.

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<sup>1</sup> Our Thanks to William Maclay, and Mcclay Architects, from whose concepts we have liberally borrowed.

<sup>2</sup> Maclay, William, *The New Net Zero*, Chelsea Green Publishing, 2014. Typical Existing 'pre-code' schools at 83 EUI, Code schools at 45-55 EUI, High-Performance at 25-45 EUI, and Net Zero at 10-25 EUI.

**Heating:**

In a fossil-free building, heating is accomplished through air-source and/or ground source heat pump technology.

**Ventilation:**

Given the high efficiency of the thermal control layer in a Net Zero building and the resulting lack of air infiltration, a ventilation system to provide fresh air to the building is required. In order to provide the desired fresh air while minimizing the heating load, the ventilation system needs to be separated from the heating system. This allows for the use of a heat/energy recovery system to conserve energy as air from the building is exchanged for outside air. This approach has the advantage of fine-grained control over the fresh air volume and allows for exceptional air quality, while conserving the energy in the building's heat.

**Energy Loads:**

In Net Zero design, energy loads (plug loads, heating/cooling, hot water heating, ventilation, and lighting) are modeled to achieve the EUI metric. This includes 100% reliance on outdoor light when it is available and sufficient control of fresh air ventilation to allow for adjustment to the level of occupancy expected for each room. As load increases, the PV requirement also increases.

**Hot Water (and water in general):**

Hot water is typically 4-5% of overall load for an educational facility. The best practices involve solar hot water collectors (i.e. roof-top Domestic Hot Water (DHW)) or electric resistance DHW with PV collector. But, as with many other of the Net Zero principles, reducing hot water demand is the first and most important requirement – high efficiency dishwasher, low flow faucets, and showers, and the use of heat recovery for gray water. Likewise, technology needs to be leveraged to reduce overall water consumption.

**Site Design**

The site design should allow for the reuse of storm-water runoff for irrigation.

**Net Zero-Ready:**

Net zero-ready allows for an end-to-end design of a 100% Net Zero building, including all of the PV capacity required for fully compliant net-zero building. However, this approach allows for a limited initial build-out of the PV system that includes roof-ready enhancements, conduits, and site improvements with a commitment to add the necessary capacity for 100% net-zero. Initial design and specification needs to include costing of both the PV infrastructure and the PV panels/arrays.

**Embodied Energy**

Embodied energy is the remaining energy required for the remaining elements of the lifecycle. Design should assume best practices in selecting use of low-carbon building materials (foundation, structural, windows, etc.). And, best low-carbon practices should be followed in disposing of the existing school buildings.