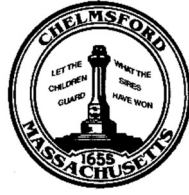


Town of Chelmsford, Massachusetts



REQUEST FOR PROPOSAL

Chelmsford School buildings Electrification Roadmap

May 08, 2024

PROPOSAL DUE:

May 23, 2024

Late Proposals Will Be Rejected

DELIVER COMPLETED SUBMISSIONS TO:

Town of Chelmsford, MA
DPW
Attn: Chris Haley
9 Alpha Road Chelmsford, MA 01824
Phone: 978 250 5228
e-mail: chaley@chelmsfordma.gov

PROJECT OVERVIEW & OBJECTIVE

The Town of Chelmsford Department of Public Works is seeking proposals from qualified professional engineering consulting firms for the development of a comprehensive Electrification Roadmap, identifying strategies for electrification and carbon neutrality of nine public-school buildings. The electrification of the nine Chelmsford school buildings is aligned with the Town's commitment to eliminating carbon emissions by 2050 by actively pursuing energy conservation and efficiency measures.

- Chelmsford High School-200 Richardson Road
- Byam Elementary School-25 Maple Road
- Community Education School-170 Dalton Road
- Harrington Elementary School-120 Richardson Road
- McCarthy Middle School-250 North Road
- Parker Middle School-75 Graniteville Road
- Center Elementary School-84 Billerica Road
- South Row Elementary School-250 Boston Road
- Central Administration Building-230 North Road

The Town of Chelmsford is looking for proposals to address the development of a comprehensive Electrification Roadmap ("Roadmap") as follows:

1. Identify alternative options to convert existing fossil fuel-based systems to all-electric systems, including heat pumps (ground source, air source, air to water, VRF), solar thermal, geothermal and electric resistance systems. Analysis must include installation costs, infrastructure upgrades and annual operating costs (energy, maintenance, and repair). Analysis must include recommended energy efficiency measures.
2. Evaluate feasibility for solar PV, solar thermal, and battery storage paired with solar PV. Evaluate feasibility for islanding where resilience is a priority.
3. Prepare alternatives analysis. Identify recommended pathways for electrification. Identify options that were not recommended and explain rationale for rejection.
4. Prepare timeline and recommended plan to fully electrify all buildings by 2050. The plan must include a summary and schedule of capital costs, as well as projected annual operating costs.
5. Evaluate feasibility to be carbon neutral by 2050.

Non-Price and Price Proposals will be received until 10:00am May 23, 2024 at the Town of Chelmsford DPW Facility, 9 Alpha Road, Chelmsford, MA 01824.

All Proposals shall be submitted in two separate sealed envelopes, addressed to Chris Haley, Sustainability Manager, and labeled as specified later in this RFP.

The Town of Chelmsford reserves the right to reject any and all proposals, to waive any informality in the bidding process, and to make the award in the best interest of the Town.

INSTRUCTION TO BIDDERS

Responses must be made in accordance with the Instruction to Bidders to be considered. The Town of Chelmsford Department of Public Works will accept two sealed proposals (non-price and price proposals) from each bidder at the DPW Facility, 9 Alpha Road, Chelmsford, MA 01824 until 10:00am May 23, 2024. Non-price proposals will be publicly opened at that time and later reviewed by a Selection Committee.

Preparation and Submission of Bid:

Bids shall be made on an unaltered bid form (attached) and shall be signed by the Bidder with his/her business address and shall be delivered to the place mentioned above within the time specified. Bids that are incomplete, conditional, or obscure, or which contain any additions not called for shall be rejected. Where both written words and numerical figures are given, the written words shall apply in the event of conflict. Conditional bids will not be accepted.

Proposals MUST be submitted in two separate, clearly marked, sealed envelopes as follows:

Envelope #1: shall contain 5 bound copies of the Non-Price Proposal only, in accordance with all submission requirements set forth in the RFP and be labeled as follows:

- “Envelope #1 – Non Price Proposal”
- Name of project: **“RFP – Chelmsford School buildings Electrification Roadmap”**
- Proposers name

Envelope #2: shall contain the Price Proposal only and be labeled as follows:

- “Envelope #2 – Price Proposal”
- Name of project: **“RFP – Chelmsford School buildings Electrification Roadmap”**
- Proposers name

No proposal received after the time established for receiving said proposals will be considered regardless of the cause for delay.

Questions pertaining to this RFP must be submitted via email to Chris Haley, Sustainability Manager (chaley@townofchelmsford.us) by 4:00 p.m. on May 15, 2024. Written responses will be emailed to all proposers on record by 4:00 p.m. on May 17, 2024, and will also be posted on the Town of Chelmsford website (<https://www.townofchelmsford.us/112/Request-for-Bids>) in the form of an Addenda.

Bid Acceptance:

Bids received prior to the time established for the receipt of bids will be securely kept and unopened. No responsibility will be attached to the Owner for the premature opening of a bid not properly addressed and identified.

Bid Rejection/Cancellation:

The Town of Chelmsford reserves the right to reject any and/or all bids and to waive any informalities if it is in the best interest of the Town.

Qualifications of Bidder:

The Town may make such investigations as deemed necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Town all such information and data for this purpose as the Town may request. The Town reserves the right to reject any bid if the evidence submitted by, or investigation of such bidder fails to satisfy the Town that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated herein.

Contract Award:

Award will take place within 30 business days of the Bid Opening.

Record Keeping and Accounting Requirements:

The Consultant must make, and maintain for at least six years after final payment, books, records, and accounts which accurately and fairly reflect the contractor's transactions and dispositions; and comply with all Massachusetts regulations.

Terms & Conditions

The Town reserves the right to accept or reject any or all proposals and parts of any or all proposals for any reason, and to waive any and all conditions or informalities in the terms or requirements of this Request for Proposals if it would be in the best interest of the Town to do so.

RFP FORM
PRICE PROPOSAL
TOWN OF CHELMSFORD

Having carefully examined the Contract Documents and Specifications outlined in the RFP prepared by the Town of Chelmsford, as well as the premises and conditions affecting the work, the undersigned proposes to furnish all labor called for by them for the base work in accordance with said documents for the following price:

Total in Figures

Chelmsford School buildings Electrification Study \$ _____

_____ Dollars _____ Cents

ADDENDA: This is to acknowledge receipt of Addenda Nos. _____

All entries shall be made clearly in ink or typewritten. Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern.

The Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

In submitting the Bid, the undersigned agrees:

1. To hold the bid open for (30) business days.
2. To enter into and execute a Contract, if awarded, on the basis of this bid.
3. To accomplish the work in accordance with the Contract Documents.

The undersigned certifies under penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person, joint venture, partnership, corporation, other business or legal entity.

DATE

EXECUTED BY (signature)

TITLE

NAME OF BIDDING FIRM (please print)

ADDRESS OF BIDDING FIRM (please print)

TELEPHONE NUMBER OF BIDDER

PROJECT SCOPE

Below is a detailed summary of the anticipated tasks and services required to complete the study and should be viewed as the basic project framework. Consultants are strongly encouraged to expand on these tasks where applicable in order to include any additional services that they would consider to be an essential element of a successful Project.

1) Data Information Gathering

The following work outline is intended to provide Respondents with a general idea of Chelmsford's expectations for the scope of the roadmap. It is not meant to be an exclusive list of elements of the project, but instead should be used as a guideline for the project components and process important to include in proposals. Respondents should use their own experience and expertise to draft a proposed scope of services that they believe will provide the answers to the targeted questions Chelmsford is seeking for this Roadmap.

Building	Address	Area (square feet)	Year Built
ChelmsfordHigh school	200 Richardson Road	285,882	1974, Performing Arts Center Addition 2007
Byam Elementary	25 Maple Road	67,536	1970
Community Education	170 Dalton Road	37,100	1968
Harrington	120 Richardson Road	67,536	1968
McCarthy Middle	250 North Road	144,000	1959
Parker Middle	75 Graniteville Road	105,000	1965
Center Elementary	84 Billerica Road	49,595	1955, Renovated 1999
South Row Elementary	250 Boston Road	59,207	1963
Central Administration	230 North Road	10,192	1968

Building System Inventory: The Consultant will meet with representatives of the DPW and School to review the existing building information as well as conduct site surveys of each of the 9 school buildings to understand the building operations and maintenance requirements, deferred maintenance, capacity, inventory, and remaining service life of existing HVAC and Solar PV equipment. The information listed below is available through existing records and previous assessment reports; however, shall be reviewed by site survey by the Consultant.

- Available building and floor plans of existing buildings
- Switchgear systems are original to the age of each building.
- Relevant HVAC equipment, capacities, approximate age of equipment
- domestic hot water equipment, capacities, approximate age of equipment
- gas-fired kitchen equipment, capacities, approximate age of equipment
- building management system
- annual energy usage and cost
- solar PV
- emergency back-up system
- Mass energy insight reports
- 2016 Dore and Whittier School Facilities Individual School Assessment Reports available on the Chelmsford Public School Website- [Individual Facility Assessments - Chelmsford Public Schools \(chelmsfordschools.org\)](https://chelmsfordschools.org)

- Boiler List (Attached for reference in Attachment A)
- Most Recent M&V Report (Attached for reference in Attachment A)
- Most Recent annual Usage report (Attached for reference in Attachment A)

2: Alternative Electrification Options

Phase 1:

Evaluate the availability of existing electric power capacity to see if upgrades to the existing electrical infrastructure are required to meet future electrical loads, assuming operating without fossil fuel-based systems. The existing electrical infrastructure is fed from National Grid Electric.

Identify alternatives to convert existing fossil fuel-based systems to all-electric systems, including heat pumps (ground source, air source, air to water, VRF), solar thermal, geothermal and electric resistance systems. Analysis must include needed upgrades to electrical service, building heating and cooling loads, changes to heating and cooling distribution systems, ventilation systems, changes to domestic hot water systems, and changes to building management systems. Analysis shall provide an overall recommended cost estimate, and a cost summary annuitized between 2024 and 2050, that include equipment and labor costs, replacement costs, as well as predicted annual operating costs and savings compared to current costs.

Evaluate feasibility for solar PV and solar thermal systems. Evaluate feasibility for battery storage paired with solar PV systems. Many of the schools have existing PV that were installed in 2014. Assessment should consider replacement and/or upgrade of any existing solar PV systems by 2034. The assessment shall also review and recommend leasing or ownership of any new solar PV systems,

Where resilience is a priority, examine potential for islanding and configuration of battery storage, PV solar, switchgear and generator allowing for operation of critical facilities during a long-term power outage.

(A) Alternatives Analysis

Identify and evaluate all electrification alternatives that offer economic benefits, reliability benefits, and/or increased GHG reduction potential while still resulting in full building electrification. Present electrification options that were evaluated but rejected as not viable and explain why they were rejected.

Investment Plan

Phase 2: Building on Phase I, develop a timeline and plan to fully electrify all buildings between 2024 and 2050, including a prioritized list of electrification projects. The Plan must include a summary and schedule of capital costs for implementation, including anticipated costs (current and future dollars), recommendations for equipment, BMS systems, electrical service upgrades, etc.

The Plan must specify the physical infrastructure, operating systems, and equipment, labor and operating costs, and predicted operating savings (return on investment) to implement the recommended electrification plan at each building and collectively. The Plan must project annual operating costs compared to current operating costs, including energy, maintenance, and repair.

Where possible, the Plan should provide options for both end-of-life equipment replacements as well as near-term options prior to end of equipment life.

3) Deliverables

The Consultant will deliver a draft Final Report in a Microsoft Word compatible version.

The Consultant will deliver the following versions of the Final Report:

- two (2) color hard copies

- two (2) high-quality electronic copies in both Microsoft Word compatible version and searchable PDF version
- one (1) electronic copy of editable slide presentation.

Any data collected in support of the plan shall be provided to the Town of Chelmsford, including building assessment and other background data. All materials will become the property of Chelmsford and shall be provided to the Town of Chelmsford.

4) Additional Tasks and Services Recommended

The Consultant shall include and detail any additional work or services that they believe are essential to the completion of a comprehensive Electrification Roadmap.

5) Meetings

The consultant shall include a project kickoff meeting and coordination and stakeholder meetings in the budget as necessary. The consultant shall include one public meeting in the budget to provide a presentation of the draft or final report. The consultant shall include at least one site visit to each of the schools to review the existing infrastructure and verify against existing records. The Consultant will have to provide CORI information prior to beginning the project.

FORMAT AND CONTENT REQUIREMENTS FOR PROPOSALS

Consultant shall provide the following:

1. A narrative including a statement of project understanding, goals and objectives.
2. A statement of clearly defined tasks and scope for managing and performing the required services.
3. Name of Project Manager and their qualifications.
4. List of key personnel to be assigned to the project and their qualifications. This shall include sub-consultants.
5. Proposed schedules.
6. Experience with similar types of projects.
7. Office location(s) where services are to be performed.
8. References, including description and dates of referenced project(s).