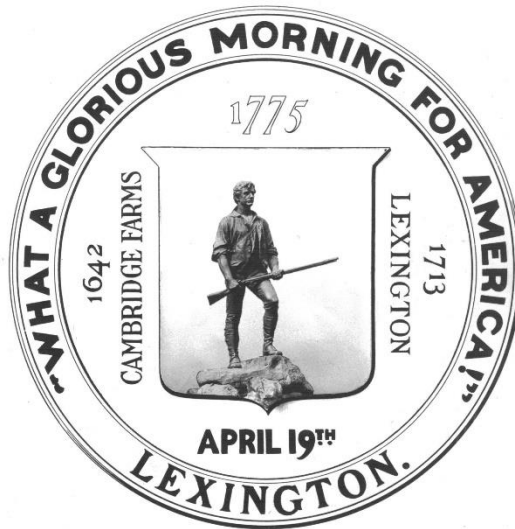


AD HOC CREMATORY STUDY COMMITTEE

TOWN OF LEXINGTON



INTERIM REPORT TO

2019 ANNUAL TOWN MEETING

Released April 3, 2019

Voting Members:

- Narain Bhatia, Town Meeting Member
- Judith Crocker, Town Meeting Member
- Sara Iverson, Community Member
- Bridger McGaw, Town Meeting Member
- George Burnell, Economic Development Advisory Committee
- Msgr. Paul Garrity, Lexington Interfaith Clergy Association (LICA)
- John Flynn, Board of Health

Liaisons

- Sandy Beebee, Capital Expenditures Committee
- Sanjay Padaki, Appropriation Committee
- David Pinsonneault, Director of Public Works
- Carolyn Kosnoff, Assistant Town Manager for Finance

Non-voting Chair

- Douglas M. Lucente, Board of Selectmen

Executive Summary

In December 2018, the Ad Hoc Crematory Study Committee was formed by the Board of Selectmen (BOS) and charged with making one of the following recommendations regarding a potential Crematory at Westview Cemetery:

1. Build a crematory adjacent to/connected to proposed new Westview Building.
2. Build a crematory on another location on the Westview property.
3. Do not build a crematory at this time.

Given the correlation between the ongoing work of the study committee and two Articles on the 2019 Annual Town Meeting Warrant (Article 6 and Article 20g), the Ad Hoc Crematory Study Committee agreed to publish this **Interim Report**. The Committee is not ready to make a final recommendation as to whether or not Lexington should build a crematory at this time, but wanted to share some preliminary information to assist in educating Town Meeting on the topic.

Committee members and liaisons agree that the continued investigation of the numerous financial implications and other variables is needed on this complex issue in order to present a complete and accurate report back to the BOS and to Town Meeting.

Though it is beyond the mandate of the Committee, it is the Committee’s judgment that there is not sufficient reason to postpone the Westview Cemetery Facility construction at this time. This reasoning is predicated on the assumption that the design for the new building has now been amended to accommodate the overlapping needs of the Westview Cemetery administrative and public spaces and a potential future crematory.

Interim Recommendations:

As of March 21, 2019, the Ad Hoc Crematory Study Committee is recommending that:

<i>Recommendation</i>	<i>Committee Vote</i>
Design the proposed Westview Cemetery Facility addition-ready for a potential future crematory.	7-0 (3-21-2019 mtg)
A potential future crematory should accommodate a viewing area suitable for up to 25 people.	6-1* (3-21-2019 mtg)
A potential future crematory should have up to two retorts.	7-0 (3-21-2019 mtg)
A potential future crematory should not be built separately from the proposed Westview Cemetery Facility.	5-1-1** (3-21-2019 mtg)

** Majority View: A Crematory viewing area in Lexington should be used for short duration witnessing of the start of the cremation process.*

Minority View: This individual was not ready to take a position at that time.

*** Minority View: This individual was not ready to take a position at that time.*

Selectmen's Charge to the Ad Hoc Crematory Study Committee

Approved in September 2018

To examine public health, public safety, public works, operational, financial, and quality of life issues associated with locating a crematory at Westview Cemetery and meeting the needs of deceased Lexington residents and their families. To assess the following options and provide the Selectmen with recommendations on:

- 1) Building a crematory adjacent to or connected to the proposed new Westview Cemetery Building.
- 2) Building a crematory on another location on the Westview Cemetery property.
- 3) Not building a crematory at this time.

Committee Role: The Ad Hoc Crematory Study Committee's study will include but not be limited to the following:

1) Review of Applicable Legislation: a. Review of the applicable sections of Massachusetts General Laws c.114 (Cemeteries and Burials). Review of Massachusetts Department of Environmental Protection regulations regarding Crematories.

2) Evaluation of needs: a. Review of availability of crematory services for residents and project future cremation needs. b. Study the economics of death rates for the area. c. Consider public and private competition in the region and other communities that may be engaged in the crematory planning process.

3) Other Crematories: a. Review of other crematories proposed, established and managed by municipalities in Massachusetts. b. Review of common practices and pricing. c. Review of operational costs and perform modeling to include: various sales price and numbers of cremations per year.

4) Building Options: a. Review siting options at Westview Cemetery. b. Review parking and gathering space needs. c. Estimate the cost to build at siting options presented including size.

5) Operational Feasibility: a. Review estimated annual operating costs, equipment costs, labor costs (including possible outsourcing labor costs) and a program budget. b. Review estimated Capital replacement costs and timeline of such. c. Explore regional grant opportunities that may be applied for.

6) Environment: a. Review of independent research on the health, environmental, and safety risks associated with the operation of a crematory. b. Review options for using alternative energy sources to reduce the environmental impacts.

Background

Westview Cemetery is the Town's active cemetery. There are of 200 burials per year on average. The Cemetery is located on a Town owned parcel of land that is 42-acres. The current building, serves as a cemetery office, a meeting area for grieving families and a work space for the maintenance staff. There are 4 Full Time employees and 2 positions for Seasonal employees.

Current Building Conditions: The current facility, which last had a significant addition in the late 1970's, has deteriorated and needs to be brought up to code. The limited space does not permit private space for grieving families to meet with Town Staff and plan burials. The maintenance area lacks

adequate space for necessary equipment to be stored indoors. This impacts the durability and life of the equipment. The only recent upgrade to the building in the last 15 years has been the installation of a new roof.



Timeline: The Westview Cemetery Facility replacement has been under consideration since 2015. Below is the timeline of the events related to the Westview Cemetery Facility and the Crematory Study:

- **2015**
 - March 2015 Annual Town Meeting – Approved Article 11(m) Westview Cemetery Building Assessment - \$35,000 (Cemetery Trust Fund): This appropriation was used to fund a feasibility study.
- **2016** – A final report of options for the Westview Cemetery Building was issued by the consultant.
- **2017** –
 - March 2017 Annual Town Meeting – Approved Article 12(o) Westview Cemetery Building Design - \$270,000 (General Fund Debt): This appropriation was to hire an architect to design and engineer the building on the Westview Cemetery grounds.
 - June 2017 – BOS approved Cemetery Fee Increase to help fund Westview Building.
- **2018** –
 - March 2018 - TBA Architects presented a proposed design and cost estimate for the new Westview Cemetery Building to BOS.
 - March 2018 Annual Town Meeting – Voted Indefinite Postponement* of Article 11 Appropriate for Westview Cemetery Building Construction - \$3,040,000.
 - July 2018 – BOS visited the Duxbury Municipal Crematory, and made a decision to form an Ad Hoc Crematory Study Committee.
 - September 2018 – Ad Hoc Crematory Study Committee charge was approved by the BOS.
 - October 2018 – Ad Hoc Crematory Study Committee members were appointed.

- December 2018 – The first meeting of the Ad Hoc Crematory Study Committee was held.
- **2019** –
 - The Committee has held 10 meetings including:
 - February 2019 – Public Hearing held for feedback on Crematory need.

*During the 2018 Annual Town Meeting, a suggestion from a Town Meeting Member was made that the Town should explore including a crematory at Westview Cemetery since we were preparing to replace the Westview Cemetery Facility.

In constructing any public building, our Town’s building design strategy makes every effort to incorporate a 50-year building life span to support the future needs of the community. Therefore, the decision was made by the BOS to slow down the Westview building process in order to determine if there would be a benefit to the Town if the new building were to contain a crematory.

Understanding the Cremation Process

ESSENTIAL ELEMENTS OF CREMATION
When comparing prices and providers, ensure each element below is included in the quoted price. Ask questions about the company's procedures for chain of identification from the point of removal on, to ensure that the deceased's identity is carefully confirmed.

You may choose to have visitation or viewing prior to cremation, possibly involving embalming, setting features, and washing or dressing the deceased. You may also arrange to witness the cremation itself.

TRANSPORT
The deceased will be removed from the place of death and taken to a funeral home or directly to the crematory.

STORAGE
Until paperwork is finalized, services are planned and the cremation is scheduled, the deceased will be placed in secure, cold storage.

CREMATION
The cremation process itself.

RETURN
The cremated remains will be returned to the authorized agent.

CANA © CREMATION ASSOCIATION OF NORTH AMERICA

Cremation is the process of reducing the human body to bone fragments using high heat. Cremation is not the final disposition of the remains and it is not a type of funeral service. With cremation, you still have the opportunity to have a funeral or memorial service. Cremated remains (“Cremains”) can be buried, kept in a mausoleum, stored in an urn, or spread outside.

To get an understanding of the process, members of the Ad Hoc Crematory Study Committee have interviewed 20 Funeral Home Directors in the primary area surrounding Lexington and 13 Funeral Home Directors in the secondary area to the northwest.

There are multiple steps involved in the cremation process, and the Funeral Director plays an integral role. By Massachusetts state law, whether you die, at home, at the hospital, or at the nursing home, you must have a Funeral Director involved. However, per Massachusetts state law a funeral home cannot have a crematory on their premises. All crematories must be located on cemetery property.

Additionally, in Massachusetts every person that is cremated must be approved for cremation by the Medical Examiner’s office. Since cremation is an irreversible process, the Medical Examiner’s office performs an examination of the body to make certain there is no question about cause of death. Further, in Massachusetts, no one can be cremated for at least 48 hours after the death occurs.

After the 48-hour waiting period, the Medical Examiner’s office can approve the cremation. At this time the Funeral Director will transport the case to crematory operators at the cemetery. Paperwork is brought to the crematory with the body, and the crematory assigns a case number. That case number and the paperwork stays with the case during the whole cremation process.

At the crematory, the body may be refrigerated temporarily. When the crematory is ready to start the process, the body is placed into a retort (the technical name for the cremation chamber). For an average size adult, the cremation process takes two to three hours where the body is exposed to extreme high temperatures, usually 1600-1800 degrees Fahrenheit. When the cremation process is complete, all that remains are bone fragments. Due to the extreme heat, the bones are in small pieces and very brittle. Crematory operators carefully remove all of the contents from the retort. These are called “Cremains”.

When the cremains are removed from the cremation chamber, they are taken to a work station where those fragments and ashes are allowed to cool. All non-consumed items, like metal from clothing, hip joints, and bridge work, are separated from the cremains. This separation is accomplished through visual inspection as well as using a strong magnet for smaller and minute metallic objects. The remaining bone fragments are then pulverized by a special machine and reduced to fine powder. The cremains of an average size adult usually weigh between four to eight pounds.

The cremains are then given to the Funeral Director or to the authorized family member.

It is customary for some religious and ethnic groups to watch the cremation as part of their funeral custom. It is their belief that it is important to follow through with the person to the final end, much the same as going to a grave site if someone were being buried. Others choose to view the cremation for peace of mind and to get the emotional closure they need.

The Committee discovered that this puts the Funeral Director squarely in the middle of the process and they are the primary person to determine where the cremation will take place when a viewing or family choice has not been established.

Crematory Regulations

Regulations: The State Laws for permitting and operating a Crematory are relatively straight forward and will provide for a well-controlled and safe operation.

Any cremation in Massachusetts must be carried out in a facility located on a Massachusetts DPH approved Cemetery. The Crematory will operate with by-laws and regulations approved by the Department of Public Health pursuant to M.G.L. Ch. 114, § 9, and an air pollution control permit issued by the Massachusetts Department of Environmental Protection (DEP) pursuant to 310 CMR 7.00. Additionally, a modification to the Westview Cemetery Trust (as approved by the BOS) will be required.

The Cremation process is conducted in specially designed chambers called retorts. There are a limited number of vendors that manufacture the specialty chambers. Manufacturing standards, vendor certification and specific maintenance procedures ensure compliance with all permitting and environmental regulations.

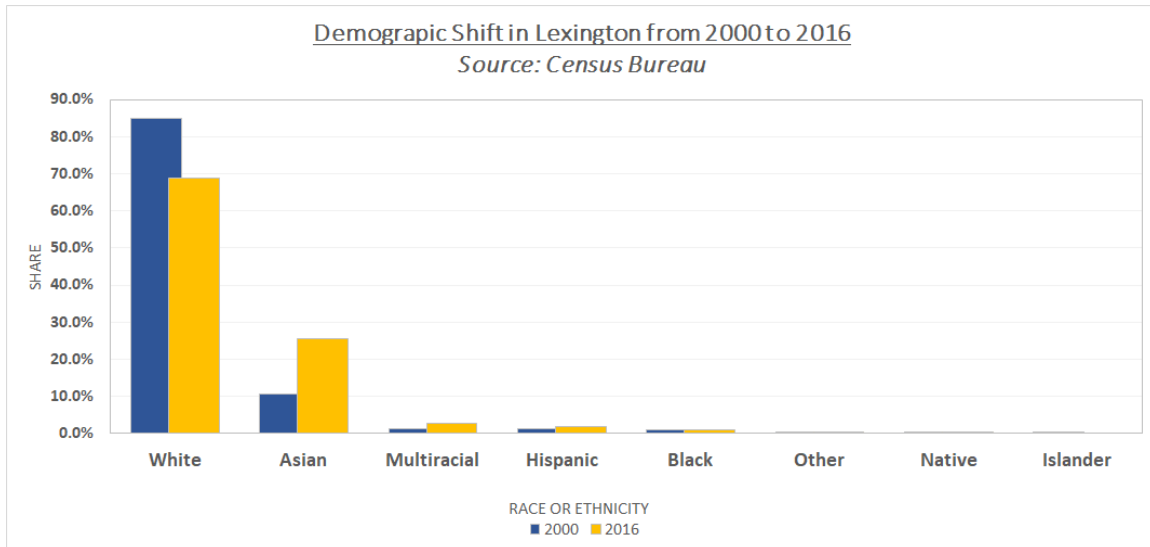
The extremely high temperatures within the chambers will reduce all organic matter to non-toxic, odorless gases. DEP Regulation 310 CMR 7.00 defines the particulate level for air pollution control. Vendor certification and proper periodic maintenance procedures will ensure compliance with DEP regulations. Particle levels are too low for practical DEP periodic testing.

There are no restrictions on the disposition of ashes once cremation has occurred. However, prior to the dispersal of cremains, permission should be obtained from the land owner or the applicable agency (e.g. – municipal government for Town land, or the Department of Conservation and Recreation for a state park, etc.)

Heat Sources: Currently, gas or oil are the only reasonable heat sources capable of providing sufficient energy for the cremation process. Natural gas is the preferred fuel for modern retorts. The retorts work best and provides the best energy efficiency when the chamber is raised to temperature for multiple sequential cremations. Cycling the retorts for individual cremations is both inefficient and an additional strain on the retort itself.

More specific information will be provided in subsequent reports and design studies as needed.

Lexington Shifting Demographics



Cultural Sensitivities and Evaluation of Needs: There has been a significant shift in the demographic makeup of Lexington over the past 16 years. This will be explored further as we investigate this trend as it relates to the preference for cremations and the Town’s ability to meet the needs of residents.

Religious Preferences Related to Cremations: Members of the committee interviewed religious leaders in Lexington. The chart below summarizes the preference for or against burials and cremations by religion. This chart is meant to be for illustrative purposes only. It is not intended to be an exhaustive list of every religion.

Religion*	Burial	Cremation	Notes
Christian	✓	✓	Greek and Russian Orthodox do not consider cremation acceptable
Jehovah's Witness	✓	✓	Follow local traditions
Unaffiliated	✓	✓	Growing segment of the population
Buddhist	✓	✓	Most Buddhists choose cremation because the Buddha was cremated
Sikh	✗	✓	
Hindu	✗	✓	
Jewish	✓	✗	Reform Judaism has begun to be more accepting of the practice
Islam	✓	✗	
Mormon	✓	✗	

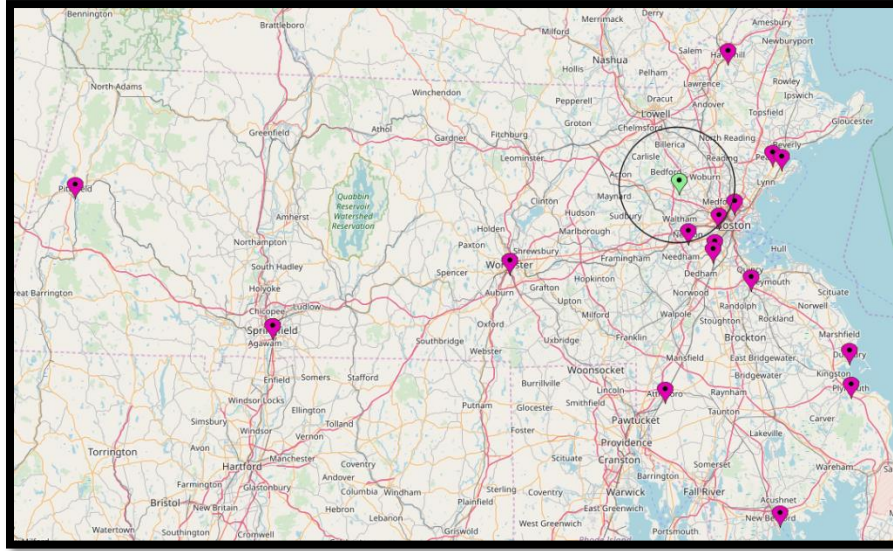
Death Statistics of Lexington:

Year	# of Burials	# of Cremation Burials	% Cremations	Graves Sold
2008	204	51	25.00%	47
2009	189	52	27.51%	77
2010	201	56	27.86%	74
2011	192	55	28.65%	99
2012	194	61	31.44%	88
2013	165	44	26.67%	91
2014	182	52	28.57%	98
2015	215	55	25.58%	64
2016	177	69	38.98%	97
2017	192	71	36.98%	119
2018	197	66	33.50%	70
Average	191.64	57.45	29.98%	84

Balancing Equity and Financial Implications: Gathering and assessing information has led the Committee to two distinct but equally qualifying thought processes: 1) Residential Equity - right for every Lexingtonian to have their funeral rites occur in their Town.. 2) Financial – if a crematory is operated by the Town, how can we make it financially viable? Operationally, the cemetery requires an annual subsidy from the tax levy to maintain its current operations. These costs have been trending upwards the last three years. Thus, our financial analysis plans to also contend with that reality.

Current Market and Trends

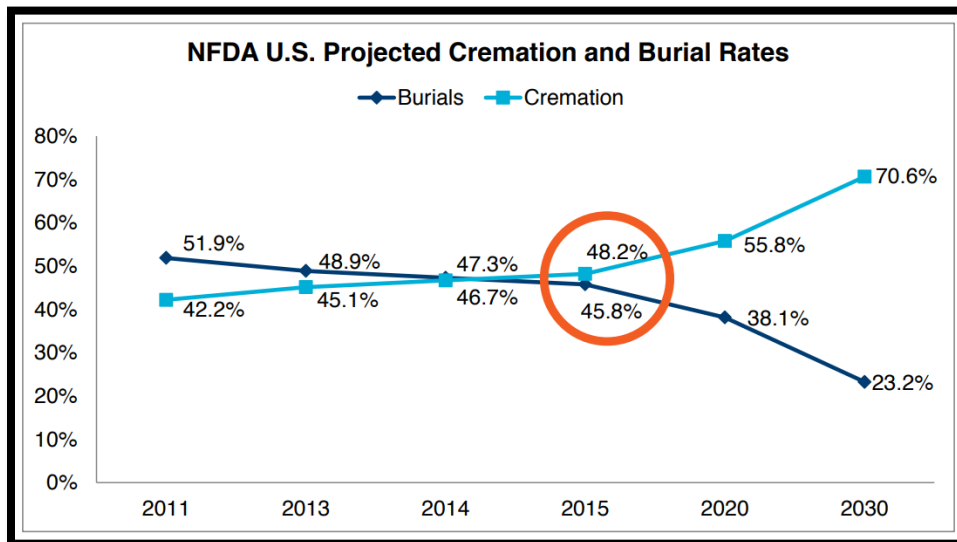
Other Crematories: There are 17 crematories located in Massachusetts (see map of other crematories below).



The primary crematories in our selected area are:

- a. Mt Auburn, Cambridge, MA
- b. Newton Crematory, Newton, MA
- c. St. Michaels, Boston, MA
- d. Linwood, Haverhill, MA
- e. Merrimack, NH

Cremation Trends: The rate of cremation in the United States is at an all-time high and surpassed the rate of burial for the past few years. The rate of cremation is projected to continue to rise. According to the National Funeral Directors Association (NFDA) that by the year 2030 over 70% of Americans will choose cremation over burial.



SOURCE: National Funeral Directors Association (2014)

Westview Cemetery Building Options

Research of Crematory Designs: It is important to keep in mind that Massachusetts is one of only 6 states that still require crematories to be sited within a cemetery. All other states allow crematories to be located in a variety of commercial zones. Should that policy be changed by the State Legislature, it is possible that additional crematories could be constructed by the private sector or funeral homes. Our analysis assumes that the current policy remains in effect.

The Committee recognized in its charge that there was a two-step design challenge in examining the feasibility of construction of a crematory due to the perceived delays in the Westview Cemetery Operations Building. First, we agreed that operationally it was more efficient with shared physical plant and administrative requirements to co-locate the two structures. Second, our examination of the Westview Design showed significant design efficiencies were possible due to some oversizing of the Administrative space. It was our assessment that modifying the design approach to the Westview Building would not only meet the administrative and operational requirements of the Westview Cemetery Operations, but also save enough money through design efficiencies to include a future crematory's administrative requirements. Our review successfully showed that the \$2.8M requested for Westview could be made more cost efficient and future-proofed should a future installation of a crematory be approved.

Crematory design and construction does not seem to be an overly specialized field. While the equipment installed and utilized has a specialized purpose, design review showed that based on the scale of the operations undertaken by the crematory operator, all designs for crematories included similar functions and the sizes of the spaces fluctuated based on the number of retorts installed. If we installed 1-2 retorts then we would need:

- (1) Administrative Workstation for managing the business
- A waiting area for 4-6 people to sit and wait comfortably
- A gender-neutral bathroom (shared by staff and guests)
- A Pantry
- A Viewing area to see the ignition process for 10-25 people
- Mechanical / Electric Room
- File Storage

Crematory Design Review: In reviewing designs for possible crematories, we reviewed over a dozen floor plans as well as considered layouts as viewed by Town Staff in their tour of Mount Auburn and Duxbury sites. We saw designs that range from 1400 sq. ft. to 2000 sq. ft. inclusive of the operational equipment. However, based on advice from crematory operators it was recommended that having 2 retorts is optimal unless you are building a massive operation. Thus, we focused our design of a future crematory building of 1400 sq. ft. to 1600 sq. ft. The balance of the space would already be included in the Westview Cemetery Administrative portion of the building. We shared these floor plans and assessments with the Facilities Department, DPW, and Permanent Buildings Committee (PBC). With a likely vote on the funding for construction of the new Westview Cemetery Operations Building (Article 20g) expected at the 2019 Annual Town Meeting, we felt that our research into operational effectiveness and construction could be summarized as:

1. Size the future project to have at least 2 retorts (approx. 1400-1600sqft).
2. A substantial overlap with the current Westview building design of approximately 1200 sq. ft. exists.

Westview Cemetery Operations Building Design Review: Upon our review of the necessary layout for a crematory, we engaged with the Facilities Department and PBC to assess opportunities. Our discussions led to some space saving opportunities for similar administrative requirements for operating each program separately. Opportunities existed to combine the two programs without adding to the known budget. For example, the previous design had 2 shower rooms (one male; one female) that totaled 600 sq. ft. At \$342/sq. ft these two bathrooms would cost approximately \$205,000 of the total project cost. After modifications were made to a similar design with all the same requirements at a total of 180 sq. ft, the Facilities Department was able to make changes saving approximately \$143,000 in those two bathrooms. Similarly, the kitchen, administrative workspace, and waiting room were all shown opportunities for shared use and alignment.

The PBC and Facilities Department recognized some opportunity for saving on the overall cost through a revised design which could lead to a potential absorption of the unique requirement for a future crematory viewing room that could also serve as a waiting area for grieving families. The Facilities Department took on the revision of the existing plans to account for these overlapping requirements preparing plans for an “addition-ready” crematory.

Recommendation to Move Forward with the “Addition-Ready” Design: Our Committee was wavering over the approach the Town should take in the construction of the Westview Cemetery Operations Building knowing that for various reasons the construction had been delayed for the last year. However, understanding the interest in moving the building project forward, the **Committee voted in favor of an “addition-ready” approach.** In the future, should a crematory be recommended or funded, the amount of additional work required would be limited in scope and not require substantive alterations to the building.

Estimated Capital Costs for Future Space: As we noted per our charge, we felt a crematory, if built, should be collocated with the Westview Cemetery Operations building. From a capital investment approach, the new design would allow for a 1400-1600 sq. ft addition on the back of the new building allowing for 2 retorts, refrigeration, garage entry for delivery, and a window could already exist from the “viewing/waiting” room into the potential crematory. Actual design costs for a future crematory would thus be limited in scope as to completing the building envelope and bringing in a gas line.

Per conversations with the Director of Facilities as well as a review of recent cost increases in commercial construction projects, it is very likely that the cost of building either the operations building or a separate crematory will be 5-10% more expensive in 2020. Project pricing could also be further increased if the Contractor processed change orders in order to accommodate undocumented modifications to the building prior to pricing and contracting. There are 3 parts of the capital cost of adding the crematory in the future:

- Bring Gas Line into Westview building: \$150-\$250K (estimated)
- Enclose the Crematory space: \$342-500/sq. ft.
- FF&E (2 Retorts; refrigeration; prep equipment)

The addition-ready approach is the best bet to align all of the existing requirements proffered by DPW, into a design that could support a future crematory.

Next Steps

The Ad Hoc Crematory Study Committee recognizes that there is much more work to be done which requires extensive stakeholder engagement. The following list illustrates the unanswered questions and areas where we need more data to build consensus within the committee. Each of these issues will be explored in the coming months:

- 1) Business plan to sell crematory services
 - a. Marketing plan
 - b. Funeral Director engagement
 - c. Competitive pricing of cremation services in Massachusetts
- 2) Explore various business models
 - a. Operation run by Town of Lexington
 - b. Operation run by outsourced entity
- 3) Cemetery and crematory operational finances
 - a. Impact on the Perpetual Trust
 - b. Impact on the 45%/55% fee split
- 4) Discussions with other municipalities within a 50-mile radius
 - a. Is anyone else planning to build a crematory?
 - b. Are there opportunities to share responsibility?
 - c. Are there regional grant opportunities?
- 5) Crematory operational feasibility
 - a. Equipment Costs
 - b. Staffing Costs
- 6) Assumptions/Uncertainties
 - a. Anticipating future community needs
 - b. Financial Implications

This Interim Report was Approved by a vote of the Ad Hoc Crematory Study Committee 5-0-1.