



# Center Fire Station Building Committee

Report To The Board of Selectmen

For Articles 12 & 13 At

Spring Town Meeting

April 30, 2012

Chief Joseph Bosselait, Halsey Platt, Susan Daly, Lynwood Prest,

Michael Bouchard Clerk, Jeremy Januskiewicz Vice Chair, Jack Petropoulos Chair

***Please attend a review of this Recommendation together with an explanation of How a Fire Station Works and a walk through of the Ayer Fire Station at 10AM on Saturday April 28. The Ayer Station is located at 1 West Main St in Ayer.***

# Executive Summary

- The Committee voted a unanimous recommendation to locate the center fire station at land owned by the Lawrence Homestead Trust (LHT) on Farmer's Row.
- The recommendation was based upon extensive analysis of the three sites under consideration, focused on our "Level 1" criteria of response time, program efficiency, cost, public safety and project risk.
- All sites under consideration had almost identical response time ratings.
- The LHT site was the only site that allowed for an uncompromised fire station program.
- The LHT site has significantly less overall cost and less perceived permitting risk.
- The main objections to the Lawrence Homestead Trust site center on view shed, the affect on abutters and on town character, and localized construction impact of stormwater runoff. Adherence to local bylaws will address stormwater runoff . The affect on abutters and particularly on the view shed are concerns that are not taken lightly. While our analysis compelled us to recommend this site, we believe that these issues warrant significant consideration by the voters, and by the Building Committee as we go about building the station should our recommendation be approved by Town Meeting.
- This report describes the process that we followed to reach this conclusion and the details of our analysis

# Committee Charge

The Building Committee shall be appointed by the Town Manager, pursuant to Section 4-2(c) of the Town of Groton Charter. The Building Committee shall report to the Town Manager and facilitate the building of a new Center Fire Station for the Town of Groton. The Committee will assist and advise the Town Manager in the review of Architect proposals for a Site Analysis of the Lawrence Homestead Trust, and in the selection of a preferred lead Architect and associated contract negotiations.

The Committee will work with the retained Architect to deliver the Site Analysis which will include a capacity and site needs analysis, site evaluation, schematic drawings and cost estimates sufficient for presentation to voters at Town Meeting. The Committee will review similar criteria available for Prescott and Station Ave sites, and will prepare a Site Selection Recommendation for the Board of Selectmen. The Committee will endeavor to have the Site Selection Recommendation ready for the April 30, 2012 Town Meeting.

Upon approval of site and design funding by Town Meeting, the Committee will work with the Town Manager to select an architect to prepare a final design and to put the project out to bid in anticipation of presentation at the 2012 Fall Town Meeting. The Committee will assist the Town Manager in the oversight of the selected contractor and be responsible for recommending to the Town Manager the approval of change orders, invoices and milestone reviews.

The Committee's work will be complete when all construction and contractual obligations for the new Center Fire Station have been completed.

# Committee Objectives

- To hire an architect with nationally recognized experience and skills in Fire Station design.
- To secure a resource that could design and execute a quantitatively based response time study.
- To execute a needs analysis that would provide the basis for assuring a comprehensive understanding of the Department's needs over the next 50 years and to assure that those needs were specified with accountability to the taxpayer.
- To design an Internal and External Fire Station 'Program' that would meet those needs.
- To evaluate the three sites specified in our charge for suitability as a location for the resulting program, using a defined set of objective and subjective criteria.
- To make a recommendation to the Board of Selectmen on the most suitable site.

# Process Architect Selection

- An RFP was issued by the Town Manager
- 12 Responses were received and reviewed by the Committee.
- Each Member provided their assessment of the submitted responses and each Member identified the responders that they wanted to interview. Member input identified 4 proposals that were selected for interview.
- Reference were checked for each of the 4 responders selected.
- Interviews included presentations by Architects and their teams and took approximately 1 hour each.
- The Committee discussed each presentation, the original proposal and reference interviews following each presentation and again when all presentations were completed.
- The Committee's unanimous choice was Dore and Whittier (D&W).
  - Dore and Whittier <http://www.doreandwhittier.com/> has extensive experience in public building and adequate experience in Fire Station design. They have an extraordinary record of cost estimation accuracy and brought excellent resources to the proposal
  - C&R Architects <http://www.cr-architects.com/> was one of the resources that D&W brought to the project. C&R is nationally renowned for Fire Station program analysis and building design. References indicated that D&W's use of C&R had produced a highly satisfactory experience with C&R being "Fully engaged" and extremely valuable.
  - D&W had the best proposal for conducting a Response Time Analysis including a thorough understanding of our objective in this regard. Criterion Associates <http://criterion-associates.com/> was specified for this purpose and had the analytical expertise to conduct the Response Time Analysis.
  - D&W's presentation had the most thorough discussion of Groton local issues.
- The Town Manager negotiated a contract with Dore and Whittier and they were hired.

# Process Response Time Study

Travis Miller of Criterion Associates delivered the Response Time Study under contract to D&W. The study utilized 3 years of Groton Fire and EMS calls which were digitized and placed into a Geographic Information System (GIS) so that they could be analyzed against other digital data. Mr. Miller provided a review of his methodology. Key points included:

- Adjusting for traffic variations during the day
- Adjusting his modeling assumptions to meet known response times within town.
- In addition to determining the differences between the 3 subject sites, the “Optimal” location for a Center Fire Station was identified

The outcomes showed no practical difference between the 3 subject sites. The optimal site was located almost exactly between the 3 subject sites.

The study, in its entirety is available through the Selectmen’s office and online on the Fire Station page of the Town’s website at: <http://www.townofgroton.org/Portals/0/TownOfGroton/BCOs/CenterFireStationBuildingCommittee/Documents/Groton%20Station%20Location%20Analysis%20FR%204-16-12.pdf>

<b>Location</b>	<b>Average Travel Time (minutes)</b>	<b>Compared to Fire HQ</b>	<b>Compared to EMS</b>
Prescott School	5.38	97.5%	96.6%
Optimal 4-Minute Station	5.38	97.6%	96.7%
GELD	5.39	97.7%	96.8%
Optimal 8 Minute Station	5.48	99.4%	98.4%
Current HQ	5.52	100.0%	99.1%
Current EMS / Lawrence Trust	5.57	100.9%	100.0%

# Process Needs Analysis

D&W and C&R conducted a series of interviews with the Groton Fire Chief and Lieutenant and with an assembly of Fire Fighters and EMS personnel in order to understand the way they respond and their needs as they saw them. D&W and C&R itemized and sized specific Station resources and then reviewed the list with Fire Station Personnel in order to come up with a “Wish List” including total square footage representing the “Best Possible Station”. Result = 20,288 sq ft.

The Town Manager and Chair asked D&W to use their expertise and their understanding of our needs to specify their version of the “Smallest Possible Station” that would serve our needs. Result = 18,118 sq ft.

The Fire Department responded to the Committee’s request to define their version of the “Smallest Possible Station” that would fit our needs. Result = 18,588 sq ft.

Final Internal Program square footage: 18,550

# Process Needs Analysis (cont.)

The Chief created a set of expansion scenarios in order to assure that we had contemplated the likelihood of needing to add to the Station in the future.

Only Scenario 2 could cause a need to expand on the design being considered. We would need to assure that the site could accommodate some additional equipment should that eventuality occur.

## **Scenario 1: Full Time Department**

Drivers: Availability of call personnel to offset and the number of onsite FF and EMS personnel  
Needs: Current housing and living facilities will suffice  
Probability: Complete Full Time: Low Increased Full Time: Likely

## **Scenario 2: Additional equipment**

Drivers: New requirements for specialized Fire Fighting equipment such as a “Foam Trailer”, “Rehab Truck” or “Off Road Equipment”  
Needs: Impossible to specify footage requirements with certainty. Additional bay capacity or unheated space may be needed. **Note:** There is a modest amount of flexibility in the current design and the ability to assign some equipment to be stored outdoors if necessary to make room for higher priority items.  
Probability: Low

## **Scenario 3: Improved coverage to area covered by Lost Lake Station**

Drivers: Community demand for improved response time and / or increased development requires that we staff the Lost Lake Station with Full Time personnel.  
Needs: Current housing and living facilities will suffice with modest improvements to Kitchen and Dayroom within the current footprint  
Probability: Low, no effect on Center Station

## **Scenario 4: Improved coverage to area covered by West Groton Station**

Drivers: Community Demand for improved response time and / or increased development requires that we staff the West Groton Station with fulltime personnel  
Needs: Current facilities are insufficient to support 24 hour coverage.  
Probability: Low

# Process Internal & External Program

D&W began placing the itemized Internal Program elements into a “bubble diagram” in order to arrive at a layout that could be used to define a footprint for the building. This is not an architectural floor plan or a biddable document. It serves to confirm the presence of all required features and to give a general layout sufficient to understand how the Station would function.

D&W produced numerous versions demonstrating ways to reduce the footprint in order to fit the building onto more constrained lots. These generally contained the same square footage but stacked floors on top of each other to save space. They invariably implied compromises in the effectiveness of the Internal Program.

All members agreed that it would be best to keep all non-living area programming on a single floor for efficiency of operation and speed of response. This would be referred to as the “Optimal Program” and can be seen below.

# Process Optimal Interior Program



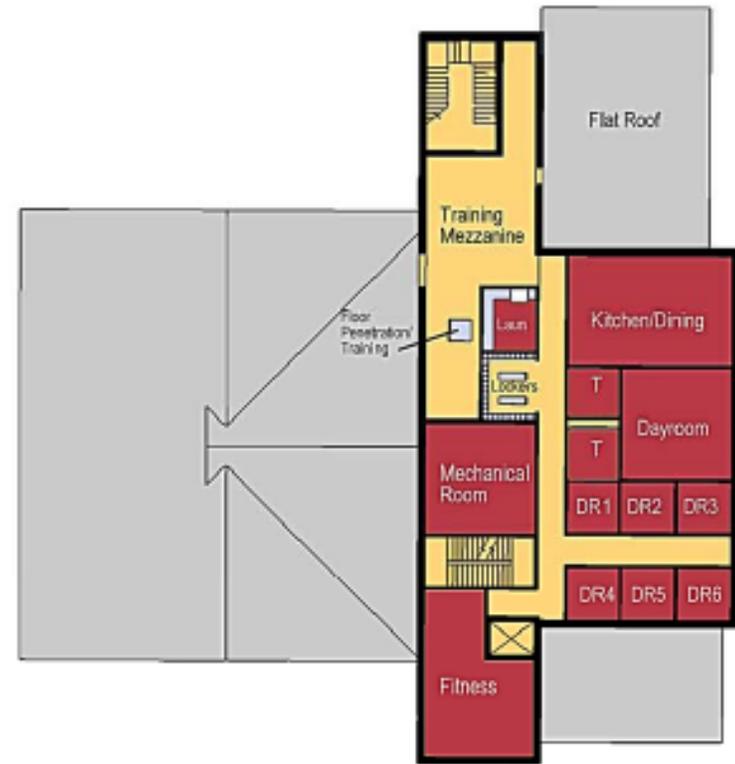
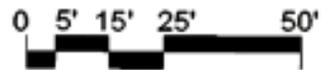
CONCEPT FLOOR PLAN A – REVISED  
2 STORY W/ TRAINING MEZZANINE



18,550 SF

MARCH 30, 2012  
GROTON, MA CENTER FIRE STATION

# Process Optimal Interior Program



# Process Optimal Interior Program (cont.)

- 18,550 sq ft total
- 4 drive through, double depth bays
- First Aid room
- 1 Training and 1 Conference room
- Individual offices for the Chief and for the Administrative Assistant
- Shared office for Staff
- File storage and review spaces for Fire and EMS
- Maintenance, Mechanical and Storage rooms
- Training functionality integrated through the building
- 6 bunk rooms with 2 unisex shower / baths
- Dayroom and Kitchen
- Strength and Fitness Training Room

# Process Internal Program Rationale

**Double Depth Bays** allow the stacking of vehicles in order to reduce the overall footprint of the building. This requires that the “Running Order” (see Appendix) be prioritized. Drive-through bays allow vehicles to enter and exit the building with more speed and flexibility, reducing the criticality of Running Order and speeding response.

**A First Aid Room** will allow a well supplied and well suited area for providing basic first aid to individuals seeking help ranging from tick bites to regular blood pressure checks. Also provides medical supply storage

**A Training Room** (capacity of approximately 50) will allow the majority of the 245 (call) and 334 (career) hours of required annual training to be delivered onsite and in larger groups. A well equipped training room of sufficient capacity will allow regional training to take place on site rather than requiring the distribution of personnel to off site facilities.

**A Conference Room** provides an efficient round table forum that would otherwise require a reconfiguration of the Training Room to achieve. In addition it allows for meetings to take place when trainings are in session.

**Individual Offices** for the Chief and for the Administrative Assistant allow for private and secure operations associated with these two roles.

**A Shared Staff Office** provides an efficient utilization of space with required individual workstations and storage for the various members of the staff, each of whom have unique roles and responsibilities.

**File Storage** and review spaces for Fire and EMS allow space for the maintenance, access and review of stored files, plans and records for these distinct operations.

**Maintenance, Mechanical and Storage Rooms** provide the capacity for supporting the daily operation of the Station. These range from areas for chair storage, to vehicle maintenance supplies, to decontamination activities, to sound insulated rooms for clean air compressors to service the Self Contained Breathing Apparatus (SCBA) equipment.

**Integrated Training Functionality** allows the use of the building structure to serve as platforms for designing and performing ‘Training Evolutions’. The height of Bay ceilings allows for the use of the Bays as staging areas for ladders and other equipment to train inside. The expansion of an interior staircase to a incorporate training features...training feature allows the economical leveraging of existing structure to serve as the basis for Training Tower. By allowing staff to train on site we achieve both the ability to customize training in a way that is either not possible or not practical if we rely on external resources, and we keep fire fighters and equipment on site, reducing overtime and wear on equipment. Most importantly, we assure that personnel and equipment are located at the most efficient point of dispatch should a call come in.

**Individual Bunks / Unisex Showers and Baths** provide the most efficient use of space for an uncertain gender mix. By providing sufficient bunk space to support a Station that is fully staffed 24/7 we plan for the likely eventuality that Groton will have insufficient Call personnel to support the coverage to deliver required response times. (See Appendix: Likely Future Staffing Mix)

**\* A Dayroom and Kitchen** are specified to meet the current and future needs of Station personnel. Full time personnel are likely to be scheduled in 24 hour shifts meaning that they will need a place to meet, relax during their scheduled personal time. In addition a Day Room is a less institutional place to meet and to process the events that have occurred during a call. Most notably it is a place to process a traumatic event such as a Motor Vehicle Accident. A Kitchen serves to provide food storage and preparation facilities for multiple shifts of personnel. It also serves to prepare food for larger events such as community events, training and teambuilding. The value of providing food as part of gatherings, especially those involving volunteer and community personnel, is well documented. (See Appendix: Food Preparation Needs)

**\*\* A Strength and Fitness Training Room** provide the opportunity for Career and Call personnel to achieve the level of personal fitness required to reduce the risk of injury or death in the performance of their duties.

**\*\*The provision of these facilities is easy to dismiss, but the facts around the frequency of death and injury associated with Stress and Exertion argue for providing every means possible to help Emergency Personnel to manage the impact of these factors. See Appendix: [How Emergency Personnel Get Hurt?](#)**

# Site Candidates



# Site Prescott School



# Process Site Evaluation Prescott

The reuse of the Prescott School as a fire station was evaluated by Joel Bargmann of Hendrie & Archetype in Boston along with a number of other options under the supervision of the Prescott Reuse Committee. The Committee's work determined that the School could reasonably be converted to a Fire Station with adequate Interior and Exterior Programming.

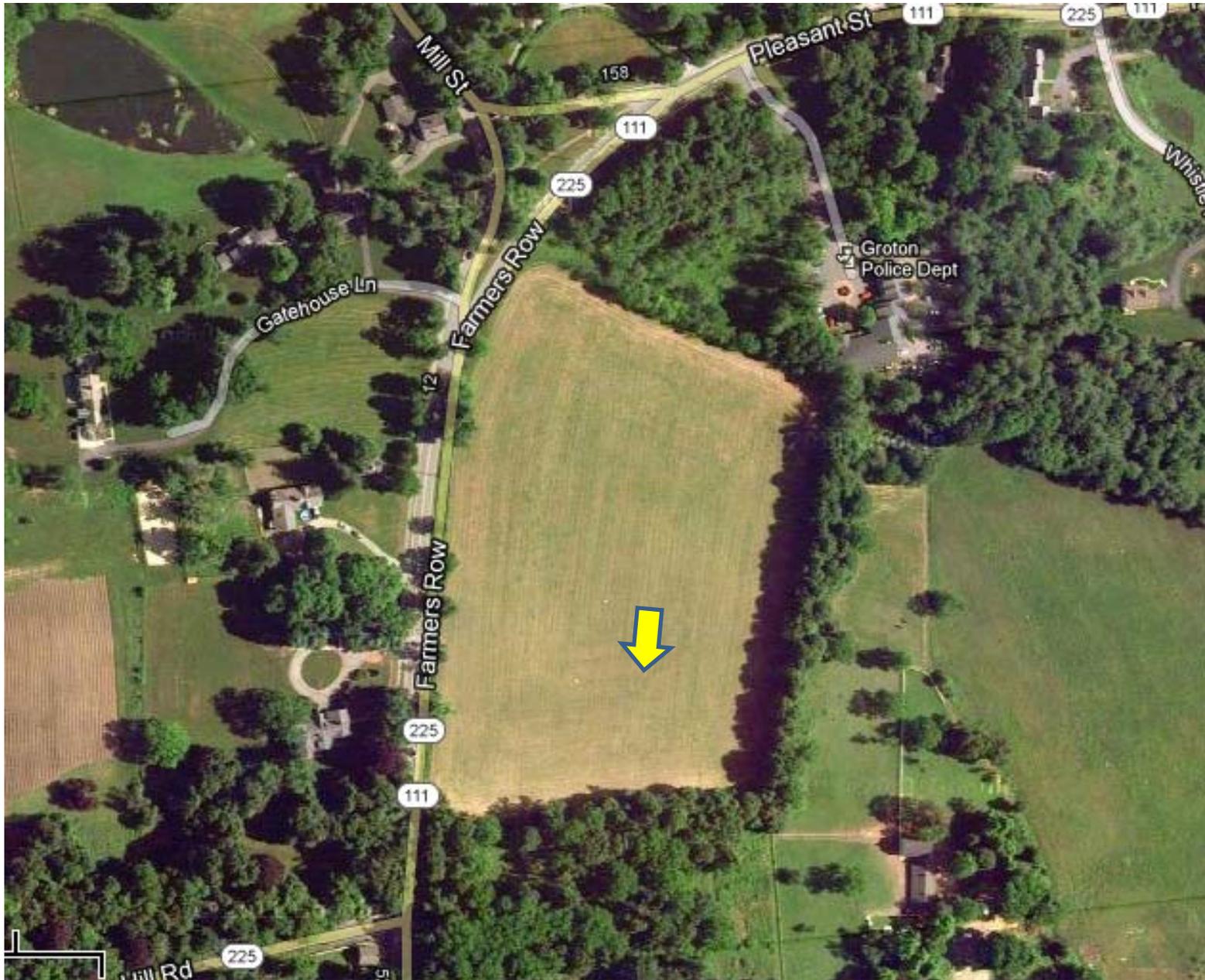
Key points included:

- The gym would be torn down and replaced with new construction for Drive Through Bays.
- Walls would need to be reinforced to meet the seismic requirements that govern Structural Occupancy III buildings such as Fire Stations.
- Using an existing structure would constrain the "Optimal Program" and would mean an increase in overall square footage and an increase in the average cost per square foot.
- It is expected that, although operating costs would be optimized with building renovation, the building would not be as efficient as new construction.
- No significant site issues were discovered so an Optimal External Program was reasonable to expect without additional cost.
- The alternative use(s) have the potential for generating up to \$50,000 per year in tax revenue.
- Permits, Variances and Conservation Issues were not anticipated to be obstacles to use.

Prior to making final evaluations, the Committee asked D&W to review the work that had been done by Hendrie & Archetype. Their work was determined to be "Quite thorough" and concurred with their cost estimates.

**Overall Cost** to renovate the Prescott School to house the Center Fire Station would be between \$7,997,120 and \$9,085,200 (Avg. = \$8,541,160)

# Site Lawrence Homestead Trust





# Process Site Evaluation LHT

The Lawrence Homestead Trust (LHT) site was evaluated by Dore and Whittier (D&W). The initial proposed placement was in the northeast corner of the property, closest to the Public Safety building. Discovery of uncharted wetlands pushed the building South and West, This caused an unattractive option for LHT and may have required the purchase of an unnecessarily large lot. Eventually the site was moved to the south east corner of the lot in a configuration that would leave LHT with 3 building lots and would preserve the view shed as much as possible.

In this location the LHT site presents no site obstacles in terms of building. It can easily support the Optimal Interior and Exterior Program. It sits within the Historic District and will require that sewer service be extended to the lot from the Public Safety building.

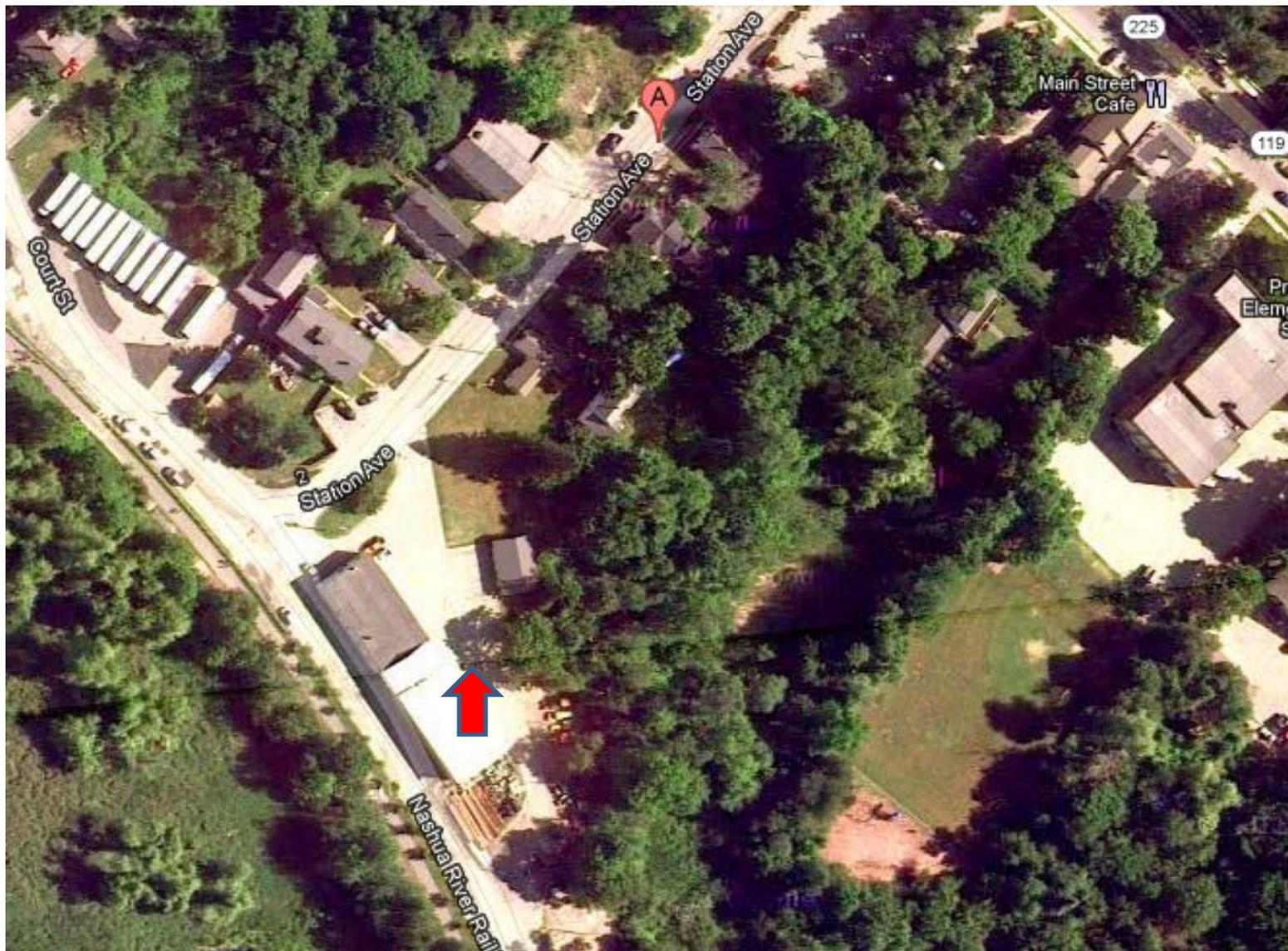
Sewer service would need to be extended at a cost of between \$70,000 and \$120,000 (depends on route). It is likely that this cost can be partially offset by the value that it brings to the remaining LHT sites and the resulting impact on negotiations for the Center Station Site.

The primary negative attributes of this site are the impact on abutters and the impact on the view shed of a prized piece of Groton's landscape. Abutter concerns may be able to be partially managed with landscaping and site engineering. The impact to the view shed is inescapable. The Committee was concerned with this and there has been moderate feedback from the Community expressing their concern with this. It is impossible to ignore the eventuality that this property may be sold at some point in the future, and that refusing to site the Station here would be to compromise a Public Safety initiative in order to preserve an uncertain future.

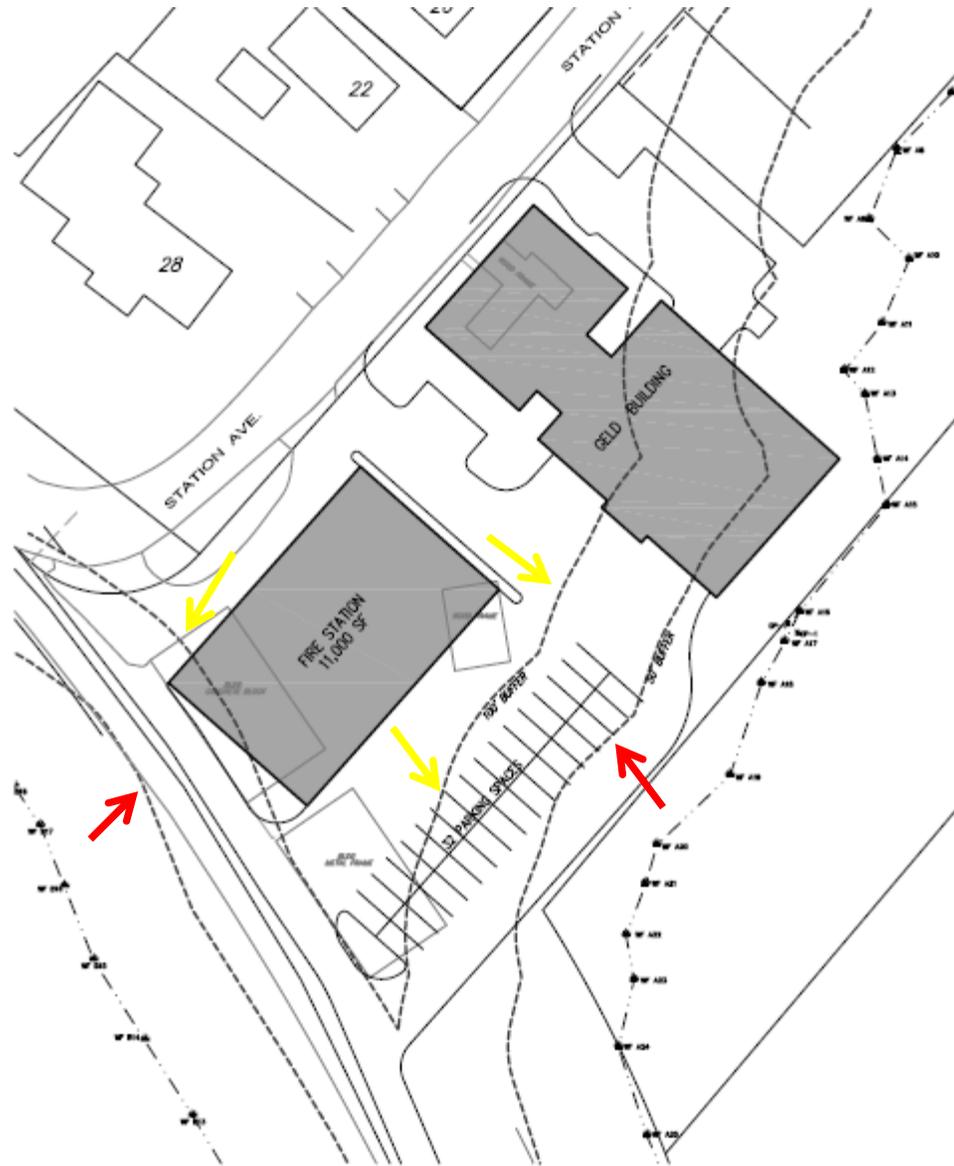
The acquisition price of the property is known to be \$350,000, near the appraised value of \$275,000.

**Overall Cost** to build the Optimal Program for the Center Fire Station on Lawrence Homestead Trust would be between \$7,291,200 and \$7,910,950 (avg. = \$7,601,075).

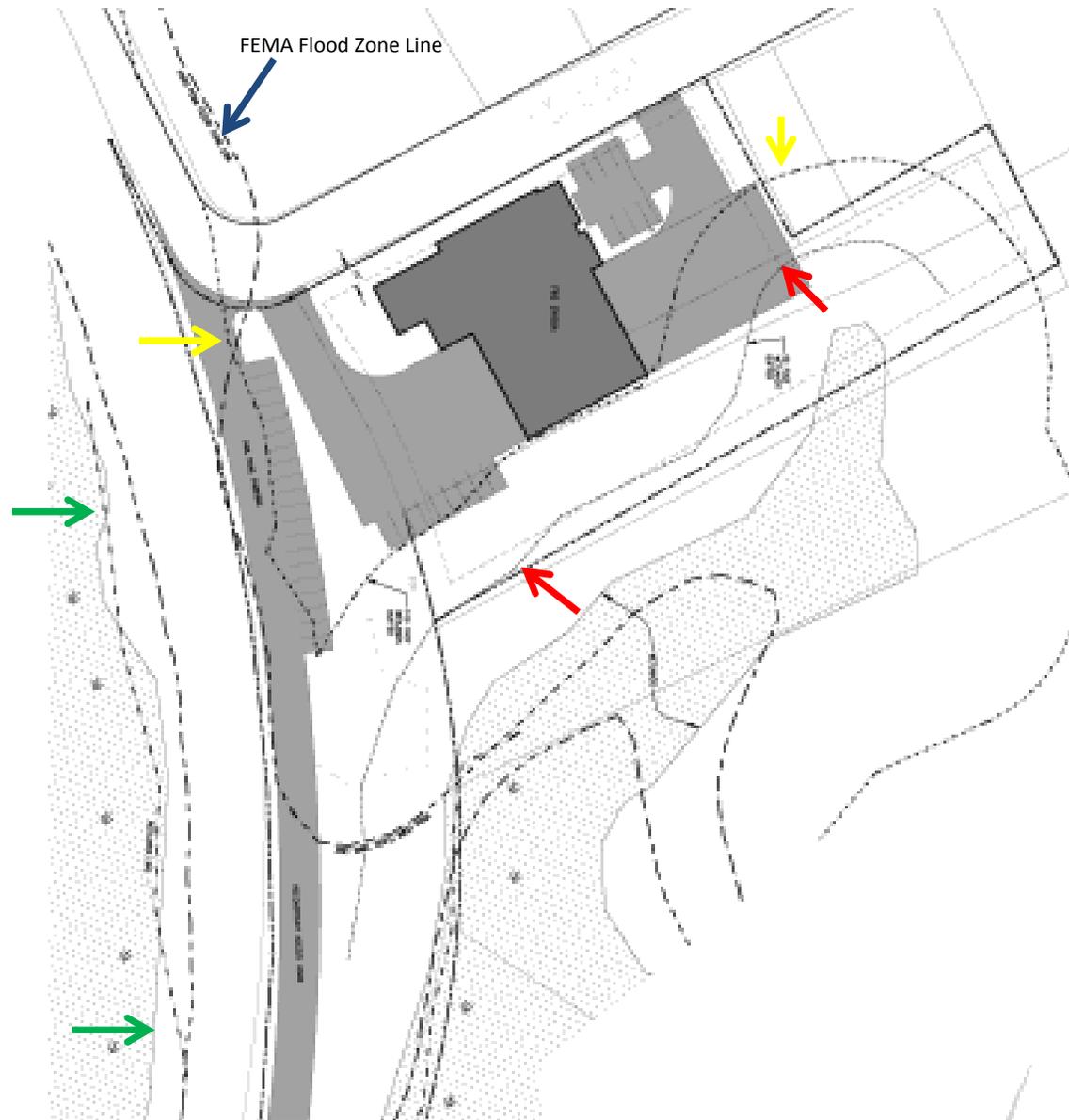
# Site Station Ave



# Site Station Avenue (Compressed)



# Site Station Ave (No GELD)



# Process Site Evaluation Station Ave

The evaluation of Station Avenue took the longest of all three sites. There was general consensus among the Committee that Station Ave. would be a preferred site if no compromises were required in the Interior or Exterior Programs. Access to utilities were positive and the access to Broadmeadow did not end up being a deciding factor.

Station Avenue would be available for a price of approximately \$200,000.

Initial Site Engineering was done by Places Inc under contract to Groton Electric Light Department (GLED). The cooperation of both GLED and Places to assisting with a thorough evaluation was extraordinary. As with Prescott, before conducting a final evaluation, the Committee had D&W review the work that Places had done. D&W found Places' work to be quite accurate and their cost estimation to be conservative.

The primary issues with Station Ave. concerned the anticipated challenges of fitting the Optimal Program into a highly constrained site location with inevitable incursion into wetland buffer zones and a premium for site development costs. Alternatively the site suffered from the impact to operational efficiency that would be incurred if the Program was modified to fit the site.

Wetland issues seemed particularly daunting in light of the difficulty that GLED was having getting its new headquarters approved. Even the most consolidated footprint that the Committee considered involved some incursion, and the Optimal Program involved a great deal of incursion.

To minimize the building footprint the Station would need to go to 2 full floors or even 3 floors. This would reduce, but not remove, the incursion into wetland buffers and would significantly compromise program effectiveness. (See Appendix: Station Avenue Overlays)

Site development would incur a site specific cost of \$500,000 to \$750,000 to bring the site up to grade where construction could begin.

Additional issues included: Concern for public safety with users of the Rail Trail (particularly children) in the proximity of emergency vehicles exiting the Station. Proximity to the GLED garage and the need to share traffic areas with GLED trucks. The potential to obstruct the future build out of an access road from Broadmeadow to a future Station Avenue Commercial district.

**Overall Cost** to Build the Optimal Program for the Center Fire Station on Station Avenue would be between \$7,828,950 and \$8,482,700 (Avg.= \$8,155,825)

# Process Compliance

The Committee assembled and reviewed the compliance requirements for each of the sites. No blocking issues were discovered.

	Lawrence Homestead Trust	Station Ave	Prescott
<b>Address</b>	Farmers Row	23 Station Ave	145 Main
<b>Map &amp; Parcel</b>	Map 108, Parcel 1	Map 113, Parcel 55	Map 113, Parcel 43
<b>Zoning</b>	Residential / Agricultural	Residential / Agricultural	Public Use
<b>District:</b>			
<b>Town Center Overlay?</b>	No	Yes	No
<b>Historic</b>	Yes	No	Yes
<b>Zoning Requirements</b>	ZBA Special Permit Planning Board Site Plan Review HDC Certificate of Appropriateness 80k sq. ft. area 225 ft. frontage 50 ft. setback 15 ft. side and rear Height limit = 35 ft	Planning Board Special Permit Planning Board Site Plan Review SAOD Design Review Committee Height limit = 35 ft 15 ft. setback from district boundary	Use allowed by right Planning Board Site Plan Review HDC Certificate of Appropriateness  On National Historic Register
<b>Parking</b>	1 per 250 sf of GFA unless waved by PB	1 per 250 sf of GFA unless waved by PB	1 per 250 sf of GFA unless waved by PB
<b>Stormwater</b>	Chapter 198 Permits MA Stormwater Permit EPA NPDES Permit	Chapter 198 Permits MA Stormwater Permit EPA NPDES Permit TCOD Low Impact Development	Chapter 198 Permits MA Stormwater Permit EPA NPDES Permit
<b>Conservation Commission</b>			
<b>Disturb w/in 50 ft buffer?</b>	Possible sewer crossing	yes amount TBD	unlikely
<b>Disturb w/in 100 ft buffer?</b>	Possible sewer crossing	yes amount TBD	yes small extension of parking
<b>Floodplain?</b>	no	yes (connector rd to Broadmeadow)	yes rear of property (no work proposed)
<b>Previously Altered?</b>	Hayfields	Existing buildings and pavement	yes existing playgrounds and parking

# Process Community Input and Education

The Committee made a strong effort to assure that its work was open to the public and encouraged public participation to the best of its ability. A special effort was made to demonstrate an open and methodical process.

- A page specific to the Center Fire Station Building Committee <http://www.townofgroton.org/Town/BoardsCommittees/CenterFireStationBuildingCommittee.aspx> was created off of the Town Website.
- An [online FAQ](#) on the Town website and the ability to submit questions via email or directly to the Board of Selectmen.
- Meeting Minutes were posted on the Center Fire Station Building Committee page.
- A narrative Summary of each meeting was created and distributed to the Groton Herald, Groton Landmark, Lowell Sun and the [thegrotonline.com](http://thegrotonline.com)
- Public Meetings held twice per week generating modest community attendance and significant community input.
- Appearance on the Jane Bouvier show: Around Town on March 2
- 2 Community Meetings
  - March 21 to describe the process that we would follow and to gather community input.
  - April 4 to provide an update on progress to date and to obtain feedback. Reviewed both LHT sites.
- 2 Fire Station Walk-throughs of the the Ayer Station:
  - Wednesday April 11
  - Saturday April 14
- Strong press coverage with articles in the Groton Herald and Lowell Sun
- 2 feature articles complete with photos on the [thegrotonline](http://thegrotonline.com):
  - Fire Station Tour Coverage <http://www.thegrotonline.com/2012/04/16/fire-station-committee-unanimously-recommends-farmers-row-site/>
  - Site Selection Coverage <http://www.thegrotonline.com/2012/04/01/fire-station-building-committee-prepping-for-town-meeting/>
- Status presentation to the Groton Board of Selectmen on Monday April 9.

# Process Committee

There was initial concern with the number of voting members of the Committee that were also fire fighters. This issue was spoken about openly and in good faith with all members, and concluded with a decision to retain all appointed members and to not look backward. There were virtually no subsequent conflicts regarding process or agenda of any kind throughout the balance of the Committee's work.

The Committee agreed to take on the Site Recommendation responsibility under the condition that it be allowed to take the time necessary to make a decision that it could be comfortable with and proud to represent. Having a recommendation ready in time for Town Meeting was an objective but not a requirement. In the end, the Committee was able to make its recommendation in time for Town Meeting. Objectively, there was no additional research or analysis that could have been performed to any additional benefit. No compromise was made in order to deliver the recommendation to the Board of Selectmen on Thursday April 12, 2012.

The Committee worked hard to take an open and unbiased approach to its work. No initial opinions regarding site preference were sought or expressed. Members appeared to feel free to disagree and to express their opinions and reservations. As an example, on one critical issue at a critical time, when one Committee member was not comfortable making a decision, Committee members agreed to delay in order to seek additional information rather than to press for an agreement.

The Town Manager worked hard to support the Committee without providing direction. In sum the role of the Town Manager was extraordinarily positive in contributing to a thorough and efficient process.

Community reactions to the Committee's work has been quite positive, reflecting the objective of setting an open and thorough process that the community could trust.

Note: The Committee set an goal of garnering a 90% approval for its recommendation of a new Center Fire Station at Town Meeting. This mark served to force an approach that would inspire the confidence of the community in the process and its execution. It came to be used as a touchstone to remind the Committee of how important even small issues were and how they could affect the community's perception of its work. It served to focus the Committee and to remind it of the many dimensions that individual issues could have, and the range of perspectives that voters would bring to Town Meeting.

# Analysis

The Committee determined that there were a set of Level 1 Criteria that would drive a recommendation and a number of Level 2 Criteria that would serve to inform the outcome.

- Level 1 Criteria consisted of:

- Response Time
- Cost
- Program Efficiency
- Public Safety
- Project Risk

- Level 2 Criteria included:

- Cost of Ownership
- Transferred Financial Benefits
- Permitting and Compliance
- Timing
- Abutter Concerns
- Safe Haven
- Expansion Potential
- Town Character
- Utilities
- Impact on Other Town Initiatives
- Reuse of Town Resources
- Tax Revenue Opportunity Costs

# Analysis Level 1 Criteria

Response time revealed itself to not be a deciding factor for any of the locations.

Compared to the estimated \$7.5M cost of building at LHT, there would be a cost premium of \$555k (7%) for Station Ave and \$940 (12%) for Prescott.

Interior Program Efficiency was optimal at LHT and compromised or severely compromised at Prescott and Station Ave respectively.

Exterior Program Efficiency was compromised at Station Avenue with anything but the most (wetland buffer) intrusive of site plans.

Public Safety issues presented themselves at Station Ave with its proximity to the Rail Trail.

Project Risk for Station Ave was determined to be high in light of the difficulty that GELD has been incurring with the Conservation Commission.

# Analysis Level 2 Criteria

Cost of ownership was optimal for LHT and Station Ave as they would be new buildings. Prescott would be a renovation that would carry increased maintenance and operating costs over time. These issues can be mitigated at additional cost.

Permitting and Compliance issues were low for Prescott and LHT and high for Station Avenue. These issues cannot be mitigated

Timing would be Short for LHT and Prescott and Medium to Long for Station Ave. (Building costs are estimated to rise @ ~1.5% every 6 months). These issues cannot be mitigated.

Abutter issues were expected to be low for Station Ave and Prescott. 2 LHT abutters have spoken out about their wish that a Station be located elsewhere. These issues can be mitigated to some degree with landscaping and site design.

Safe Haven properties are most strong in Prescott, moderate for Station Avenue and low at LHT. These can be mitigated to some degree with signage.

Expansion Potential was best at LHT and Prescott and limited at Station Ave. Mitigation would be difficult.

Impact to Town Character was considerable at LHT. The fact that this property is subject to sale at any time serves to qualify this, but it is an inescapable consequence that a Station at LHT would impact a treasured view shed. This could be mitigated with landscaping or with a town initiative to secure the balance of the property.

Utilities are present at all sites except that LHT will need to have a sewer extension.

Impact on other Town initiatives would be strongest at Prescott where the town appears to have commercial options that would preserve the building and add vibrancy to the town. A Station at Station Ave would possibly impact the realization of plans for the Station Ave Overlay District. This consequence was not considered strongly by the Committee. No impact on other Town initiatives was seen for LHT.

Reuse of Town Resources was highest for Prescott with moderate benefit attributed to Station Ave and no benefit attributed to LHT.

Tax Revenue Opportunity Cost was low for Station Ave, moderate for LHT depending on its alternative use, and high for Prescott.

# Analysis Summary

The following visual presents a view of the way the Committee saw the options in a Criteria by Location view.

	Station Ave	Prescott	Lawrence Homestead Trust
Response Time	∅	∅	∅
Building Cost Difference (Base = \$7.5M)	\$554,750	\$940,085	\$0
Interior Program Efficiency	Compromised	Compromised	Optimal
Exterior Program Efficiency	Compromised	Optimal	Optimal
Public Safety	High traffic / pedestrian	High traffic / pedestrian	Low traffic / pedestrian
Project Risk	High	Low	Low
Cost to Own	Optimal	Highest (uncertain \$)	Optimal
Transferred financial benefit	Ratepayers	None	None
Permitting	High Risk (Con Com)	Modest Risk	Low Risk (HDC)
Timing	Medium	Short	Short
Abutters	Already abutting a station	Few abutters	Upset abutters
Safe Haven	Modest (rail trail)	High	Modest
Expansion Potential	None	Modest	Modest
Town Character	∅	∅	Impact to View Shed
Utilities	Existing	Existing	Sewer
Impact on other town initiatives	Limits SAOD possibilities	Displaces higher occupancy use	∅
Reuse of Town Resources	Likely	Certain	None
Tax Revenue Opportunity Cost	Low	\$10,000 to \$50,000 / yr	\$8/ yr or \$10,000 per year

# Analysis Summary

The following visual presents a view of the way the Committee saw the options in a Criteria by Location view.

<b>Impact Code:</b>	Positive (no shade)	Negative	Mixed
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	Station Ave	Prescott	Lawrence Homestead Trust
Response Time	∅	∅	∅
Building Cost Difference (Base = \$7.5M)	\$554,750	\$940,085	\$0
Interior Program Efficiency	Compromised	Compromised	Optimal
Exterior Program Efficiency	Compromised	Optimal	Optimal
Public Safety	High traffic / pedestrian	High traffic / pedestrian	Low traffic / pedestrian
Project Risk	High	Low	Low
Cost to Own	Optimal	Highest (uncertain \$)	Optimal
Transferred financial benefit	Ratepayers	None	None
Permitting	High Risk (Con Com)	Modest Risk	Low Risk (HDC)
Timing	Medium	Short	Short
Abutters	Already abutting a station	Few abutters	Upset abutters
Safe Haven	Modest (rail trail)	High	Modest
Expansion Potential	None	Modest	Modest
Town Character	∅	∅	Impact to View Shed
Utilities	Existing	Existing	Sewer
Impact on other town initiatives	Limits SAOD possibilities	Displaces higher occupancy use	∅
Reuse of Town Resources	Likely	Certain	None
Tax Revenue Opportunity Cost	Low	\$10,000 to \$50,000 / yr	\$8/ yr. or \$10,000 per year

# Conclusion

A Center Fire Station is an operational center, designed to promote the efficient execution of its mission. It is no accident that, Fire Stations around the country share a design similar to the one we have developed here. If this end can be achieved without compromising cost or risk, the decision becomes all the more clear. In this case such benefits come at a lesser cost and risk than the alternatives. **In sum the only site that can reasonably accommodate an Optimal Program is Lawrence Homestead Trust.** Either of the other sites would require a compromise in that program and would do so at additional cost with no benefit to the town as a whole other than to preserve a treasured view shed which, even in the absence of a Fire Station, has an uncertain future.

There is no overlooking the impact to the Town's character that the use of this site would affect, nor the impact to a number of abutters who live nearby. These issues weighed heavily on the Committee.

In conclusion, the Committee's judgment was that there was no compelling reason to compromise the operational effectiveness that the Lawrence Homestead Trust site offered, nor the cost advantage that it afforded, as the location for the Center Fire Station.

# Recommendation

April 12, 2012

From : Fire Station Building Committee

To: Board of Selectmen

Subject: Recommendation for Central Fire Station Site

We the Center Fire Station Building Committee on Thursday April 12, 2012 unanimously recommend to the Groton Board of Selectmen that the Lawrence Homestead Trust site be chosen as the location for the new Center Fire Station.

Our decision included an assessment of response time, building cost, interior and exterior programming efficiency and public safety.

We will provide a full written report at the earliest possible date.

Respectfully Submitted,

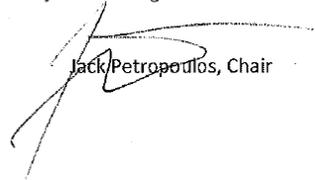
Susan Daly

  
Michael Bouchard, Clerk

  
Halsey Platt

  
Lynwood Prest

  
Jeremy Januskiewicz, Vice Chair

  
Jack Petropoulos, Chair

# Special Thanks

- The **Site Selection Committee** that came before us. Their work laid the groundwork for much of what we did. Many of the members of that Committee served on this Center Station Building Committee.
- The **Center Fire Station Building Committee** who met over 20 times 9 weeks, including 4 public events and logged well over 50 hours each of work.
- **GELD** who, on behalf of the ratepayers, never failed to try to get their property to work as a site for a Fire Station, but at the moment that the decision was made to site elsewhere, turned their attention to making the Station successful at the alternative site.
- **The Groton Line** for their work to publicize our efforts and to generate turnout for our events.
- **The Groton Herald** and to Connie Sartini for their detailed coverage of our meetings and the public education that this coverage provided.
- **Jane Bouvier** for helping us to keep the public informed through her show: Around Town
- **Lowell Sun** for their work to inform their readers of the efforts of the Committee.
- **Patrice Garvin** for her dedication to our meetings and the unrelenting support to make documents available for the Committee and for the public. Also for the pearls of wisdom that she dropped for us along the way.
- **D&W** for their flexibility in supporting our needs as we discovered them and the professionalism that served to give us confidence in the materials that we relied on.
- **Places , Inc.** for their endless willingness to provide version after version of Station Avenue planning in an effort to evaluate the viability of that site.
- **Lawrence Homestead Trust** for their willingness to consider the sale of a portion of their property for the benefit of our Town.
- **Lieutenant Susan Daly** for her objectivity, her commitment, and her patience while we all learned from her.
- **Chief Joseph Bosselait** for his commitment to our Town, and to assuring that Station Avenue met the grade.
- **Town Manager, Mark Haddad** for his leadership, his tireless work, and the accommodations that he made along the way (but not for pizza).
- To the **Firefighters and EMTs** that devoted countless hours to helping to create an efficient needs assessment, assured that we did not miss anything, and for reminding us time and again that they are only looking for the best possible chance.
- To the **Citizens of Groton** that attended our meetings, provided feedback to us in the streets and helped us to execute on this process and to provide a well informed recommendation.
- **Ayer Fire Department** for the opportunity to educate the Committee and our residents on Fire Station design.

# Appendix 1- Glossary

- **External Program:** The design of the exterior space to facilitate the range of functionality that happens outside of the Station. These include entry and exit from the bays, room for staging and maintaining vehicles outside of the building, line of site exiting the building and onto the street, and support of external 'Training Evolutions'.
- **Internal Program:** The design of the interior space as it relates to and facilitates the execution of the daily and emergency operations of the Station. (e.g.: The efficiency and safety with which personnel can respond to a call by going from the kitchen to the vehicles and out the door.
- **Optimal Program:** The combination of space and flow that best suits the day to day requirements of the Department regardless of site or cost restrictions.
- **Running Order:** The order in which equipment would be prioritized and dispatched to a call depending on the nature of the call.
- **Training Evolutions:** Training scenarios designed to represent possible field situations replicated with as much realism as possible in a training environment.

# Appendix 2- Running Order

<b>Call Type</b>	<b>Condition</b>	<b>Required Equipment (By priority)</b>
Medical	Any	Ambulance, Service Vehicle
Motor Vehicle Accident	Any	Ambulance, Rescue, Engine
Structure Fire	In Water District	Ladder, Engine, Ambulance, Tanker
Structure Fire	Out of Water District	Ladder, Tanker, Ambulance, Engine
Brush Fire	Any	Forestry, Tanker, Ambulance

# Appendix 3- Average Annual Training

## Call Member

- Fire training at station 72hrs
- EMS training at station 72 hrs
- CPR 4 hrs
- Hazmat at station 6 hrs
- EMS Con-ED 28 hrs Bi Annual
- EMS Refresher 24 hrs Bi Annual
- Fire training off site 40 -120 hrs

**Total hours: 245 to 326**

## Career member

- Fire training at station 160 hrs
- EMS training at station 72 hrs
- CPR 4 hrs
- Hazmat at station 6 hrs
- EMS Con-ED 28 hrs Bi Annual
- EMS Refresher 24 hrs Bi Annual
- Fire training off site 40 -120 hrs

**Total hours: 334 to 414**

# Appendix 4- Likely Future Staffing Mix

It is likely that at some point in the future, Groton will need to staff its Center Fire Station with 24 hour coverage. The reality of response time requirements combined with reduced availability of Volunteer resources makes planning for this eventuality a requirement in the design of the new Station.

- “When the National Fire Protection Association released its latest figures on the number of firefighters in the United States last October, the number of volunteer firefighters was at its lowest since 1991”.

[Source: Fire Chief March 2012](#)

- “The problem is this: The volunteer fire company, an institution that dates to Ben Franklin, is slowly going the way of the horse-drawn pumper.”

“Blame it on the changes in society: longer commutes, two-income households, year-round youth sports, chain stores that won't release workers at midday to jump on a fire truck. Blame it on new folks in town who don't even know the department is volunteer. Blame it on stricter training requirements and fewer big fires and the lure of paying fire jobs in the cities.” [Source USA Today 11/7/05](#)

# Appendix 5-

## How Do Emergency Personnel Get Hurt?

- In the station
  - “A recent case study in a metro fire department showed there were as many non-incident-scene injuries as there were incident-scene injuries. The incident scenes included all types of incidents (fire, EMS, hazmat, technical rescue, and so on). The study also revealed that more of the non-incident-scene injuries occurred at the fire station than at other places.”
    - Source <http://www.fireapparatusmagazine.com>
- Out of the Station
  - Of all Fire Fighter Deaths: Exertion / Stress 54%
  - Of all Fire Fighter Injuries: Exertion / Strain 26%
    - Source: <http://www.nfpa.org>

# Appendix 6-

## Food Preparation Needs

Prepare meals anytime the Emergency Operations Center is activated

Anytime the stations are manned for storm coverage

Prepare dinner for the seniors

Prepare meals for Mass Fire Academy regional training programs

Association events – currently have to prepare at homes and transport

Prepare holiday meals for police and fire to share

Community outreach and education programs

