

Advisory Committee Capital Subcommittee
FY 23 Fire Department CIP Requests
March 29, 2022

ENGINE #1 REPLACEMENT

Subcommittee recommendation: \$725,000 (General Fund Bond)

Town Policy calls for the replacement of front-line fire engines every 17 years and their rehabilitation every 10 years. It also calls for the replacement of front-line ladder trucks every 20 years and their rehabilitation every 12 years. This schedule is aligned with guidelines from the National Fire Protection Association.

Engine 1 was purchased in 2006; it is due to be replaced in FY 23 at an estimated cost of \$725,000. Delivery of the new engine will be about one year after the order is placed.

The current Engine 1 will become a reserve engine, meaning that it will be used when front line equipment is taken out of service for unanticipated repairs, scheduled maintenance, or warranty work. One reserve engine is used for training at Station 6. The department keeps an average of three engines in reserve, housing them at Stations 4, 5, and 6. Currently there are four. Once a reserve engine reaches the end of its useful life, it is auctioned off for scrap or purchased by a private collector. All proceeds are deposited in the General Fund.

The replacement for Engine 1 will have a streamlined design that will make negotiating Brookline streets and Brookline traffic easier and more efficient. No problems are anticipated in being able to accommodate it in terms of its dimensions or weight in any of the stations.

Electric fire engines are currently undergoing beta testing in the Midwest and the Fire Department will track their performance. In the near future the Department is likely to purchase hybrid before transitioning to electric vehicles for staff and Fire Prevention. The current lack of infrastructure needed to support electric vehicles presents a barrier to their purchase now.

FIRE STATION RENOVATIONS

Subcommittee Recommendation: Request Select Board to place on the November Ballot as a Debt Exclusion Question

The Fire Station Renovations Project is currently estimated to cost \$60,000,000, an amount that includes soft costs (architectural and engineering services, commissioning, and OPM services) totaling approximately 17.5% of the project costs; construction costs; contingency; and additional features to make the stations “Net Zero Ready.”

There are five fire stations in Brookline: Station 1 (Washington Street and Route 9); Station 4 (Route 9 and Reservoir Road); Station 5 (Babcock Street); Station 6 (Hammond Street); and Station 7 (Washington Square). Each station provides living, cooking, and sleeping quarters as well as administrative office space. Depending on the station, there can be between 4-5 personnel and 9-11 personnel (with or without 2-3 paramedics) occupying a station at any given time.

In 2013, a study with schematic designs was undertaken by CBI Consulting, Inc. CBI focused on the conditions of four of the stations (Station 5 on Babcock Street was not part of the study) and what would be needed to maintain the integrity of the floors and the buildings themselves to accommodate newer, larger fire equipment. The report also included recommendations for the HVAC systems, generators, lighting, and life safety as well as mechanical, electrical, plumbing (MEP) systems.

Shortly after MEP work began, additional funding was requested for the industrial cleaning of the firehouses and reconfiguration of their spaces to mitigate potential environmental hazards in the stations and to address the growing concern with cancer-related illnesses in the fire service.

Existing funds in a special appropriations account were used to engage the engineering firm of GGD to produce a study that included an environmental zoning analysis; review of various code requirements and potential code

issues impacting future renovations of the fire stations; an existing conditions report on fire safety, plumbing, water, natural gas, and compressed air systems; and cost estimates.

The report recommended implementing environmental zone updates, including the installation of gasketed doors and relocation of equipment. Heavy emphasis was placed on the installation of enhanced HVAC equipment to create pressurized controls between working and living spaces and to create zones along with the implementation of enhanced policy and procedural decontamination standards and habits.

GGD was also asked to address the long overlooked and long overdue need to integrate and accommodate female firefighters and to create equitable spaces for men and women with specific focus on privacy equity in bathroom and changing facilities. Two additional requests included reviewing male and female “bunks” from a logistics standpoint and installing lactation spaces.

Subsequent discussions among members of the Fire and Building Departments and GGD led to the conclusion that Station 5, although built in 1965 and therefore the “newest” of the five stations, did not lend itself to renovations, and that spending in excess of \$3 million dollars for renovations would still not result in a building that would have parity with the other stations once they were upgraded. The floor plan of Station 5 has little flexibility; the kitchen is too small; the structure is built on slab and therefore lacks a basement, (making HVAC renovations more difficult); and there is no second floor on which to locate sleeping quarters to distance them from the apparatus bay.

At the request of the Building Department, GGD has studied and recently submitted recommendations to make the new Station 5 and the renovated stations as “Net Zero Ready” as practicable with high performance building envelopes designed to reduce heating loads, low electrical lighting loads, geothermal (where possible) HVAC systems that operate with maximum energy efficiency, and the addition of as many photovoltaic arrays as possible on each site. This work is estimated to cost \$10 million, a figure that includes soft costs. The goal is to renovate existing stations to have an Energy Use Intensity (EUI) rating of 35 and to design and build a new Station 5 with an EUI rating of 25.

The renovation of each station is currently estimated to take between 8-18 months, depending on the size and complexity of the project, with each station vacated during the renovation. The apparatus and personnel from the affected station would be temporarily reassigned. It is a project that involves considerable logistical planning, which is already underway.

The entire project is expected to take place over a five to seven year period and could be undertaken with one bid for the entire project or with one bid for the new building and one bid for rehabbing the other four.

Questions were raised about the Net Zero Ready measures and whether (and by whom) an analysis of the embodied carbon in the existing Station 5 should be undertaken. The Subcommittee and Zero Energy Advisory Committee members Werner Lohe and Kathleen Scanlon also discussed whether/how much additional funding in operating dollars will be necessary to achieve Net Zero status for all stations.

Because there is insufficient money for design development at this time, it has not been possible to undertake a life cycle cost analysis and energy modeling for the project. Such analysis and modeling will be possible during the schematic design phase. As a result, the energy consumption of the buildings cannot be estimated at this time and therefore the delta in cost per kilowatt hour between the fully Green option that achieves Net Zero versus the conventional option (that would not achieve Net Zero) is not known at the time.

Although the eventual cost of making the stations Net Zero has not been determined, based on the discussion at the hearing and the recommendations of GGD, subcommittee members concurred that \$60 million would be sufficient to meet the Fire Department's programmatic needs and goals and to make the fire stations Net Zero Ready.

By a unanimous vote of 5-0, the Subcommittee recommended that the Select Board be asked to place the Fire Stations Project on the November ballot as a Debt Exclusion question. Should voters support the project, a motion under the November 2022 Town Meeting warrant article for bonding authorization could include the condition that after the schematic design

phase but before the development of any construction documents, a committee composed of representatives of the Advisory Committee, Building and Fire Departments, and ZEAC members determine the impact, if any, of the additional Net Zero Ready elements on the operating costs of the stations.

Additional Information – Fire Department Coverage for South Brookline

Part of the Capital Subcommittee’s discussions with Chief Sullivan last year focused on the Town’s projected population growth and other factors that could impact public safety. It was confirmed by the Chief that such considerations will be taken into account as plans for the fire stations are developed. The growth in South Brookline in the near-term, due to the expansion of Hancock Village, raises the question of whether the department as currently structured will have the capability to serve the southern portion of the town. In response, Chief Sullivan stated that adding a ladder truck in South Brookline would be considered, and his recommendation would be to locate it at Station 4, at the corner of Reservoir Road and Route 9. The Chief noted that he was in agreement with the 2019 IAFF analysis that found that housing a ladder truck at the centralized location of Station 4 would increase the department’s 6-minute ladder response capabilities in South Brookline. In addition, the IAFF analysis found that placing another company at that location would improve response capabilities through the town.

The IAFF’s findings dovetail nicely with the Fire Station Project. If it moves forward, Station 4 will be first on the list to be upgraded and at the same time it will be redeveloped into a two-company facility so that it can serve as the “swing” station while other stations are being renovated. At the end of the entire project, because of its redesign, it will have the capacity to accommodate a ladder company. An additional company, to be fully functional, translates into hiring 20 additional firefighters.

