



Belmont Public Library, Belmont, Massachusetts

Capital Budget Supporting Narrative

Last updated 9/17/2021

This narrative supports the CHA Belmont Public Library Capital Budget cost estimate dated August 10th, 2021. The intent of this narrative is to provide a summary explanation of the capital budget scope of works assumptions and considerations. The items are numbered and as they appeared on the FY 22 Capital Budget CHA Discussion Comments rev 8122021 spreadsheet.

- 2) Extend useful life of HVAC – Given the age of the system and the background information that it cannot keep up with the energy demands/loads of the building, this is a lump sum number that assumes a rather significant overhaul of the HVAC systems.
 - a. This includes any make up air fans, fans, cooling units and otherwise would be considered heating, ventilation, and air conditioning equipment.
 - b. A component of this scope would include rebalancing of the system, looking at diffusers within the deficient spaces as well as some insulation to further contain air conditioning or heating in more severe weather.
 - c. The scope of the actual work would be unknown until the system is fully assessed by an MEP engineer or qualified service vendor.
- 3) Fire alarm upgrades – The existing system is deficient by way of fire alarm smoke detector and/or heat sensors coverage. Upgrading the system would mean bringing it up to code.
 - a. Cost assumes addressable fire alarm system.
 - b. Cost includes opening the walls and updating the electrical backbone of the system, the applicable conduits and environmental remediation needed to assess the “hot” areas.
 - c. Cost assumes not only the actual areas of electrical runs but also means and methods of getting the devices power support to each location.
 - d. A new annunciator panel is assumed in the costs.
 - e. A good portion of the costs is associated with the logistics of the installation of the upgraded components and updated wiring of the same.
 - f. This cost does not include a fire sprinkler suppression system or fire pump for the same.
 - g. An appropriate and recommended approach would be for a Fire, Life Safety (FLS) engineer design and provide specifications for the fire alarm replacement/upgrade. A vendor maybe able to do the same but a vendor assumes no other scope of services such as the coordination and handling of the electrical upgrades, environmental remediation, patching of all the walls and painting of the same. These costs are included in this line item



- 4) Exterior painting – The assumption under CHA costs considers an allocation for repairing and replacement of rotted wood.
 - a. It does not entail replacement of all the wood, but rather repair and replacement as needed which can be assumed at 30% of the existing wood.
 - b. A full assessment of the exterior by an envelope firm would determine the full scope of work but it is reasonable to expect at least 30% would need to be repaired and/or selectively replaced.
 - c. Scope includes removal of old caulking and installation of new caulking.
- 5) Expand existing security camera system – Assumption is made that expanding the security system would require more cameras in select locations.
 - a. As such, those cameras need to be powered and/or have cat 6 wiring hard wired to those locations.
 - b. Such wiring may require wall and ceiling cutting and create the need for environmental remediation.
 - c. Also, the duplexer and recording device equipment would/should be replaced to accommodate for the expansion of the system.
 - d. Main power electrical upgrades are not considered as part of this scope but ancillary electrical work to support the expanded system is included.
- 6) Upgrade/replace unit ventilators - Cost assumes replacement of the ventilators.
 - a. Cost provided based on unit pricing and logistics for removal and installation of new including ancillary costs for electrical and plumbing.
 - b. Specifications for such would come from a mechanical, Electrical, plumbing (MEP) engineer.
- 7) Chiller replacement – Cost assumes chiller replacement in like kind in tonnage.
 - a. An MEP engineer would provide specifications for such a replacement.
 - b. We also suggest an energy model be performed as this directly affects the tonnage requirements and may provide some insight of the heat loss/AC deficiencies in the interior thereby dictating further insulation work or more controls for the system.
 - c. The cost does not provide for a building management system or updated controls – simply the replacement of the existing unit.
 - d. It accounts for ancillary electrical and plumbing work – however, it does not account for any major plumbing or electrical upgrades that very possibly maybe needed.
 - e. The cost includes roof repairs associated with the replacement.
 - f. The cost does not include any structural repairs that maybe required for code reasons or otherwise.
 - g. A vibration absorbing structure is also not included in the cost.



- 8) Replace windows and exterior doors – Window specifications would be an important component to understand. Windows have energy components, reflectivity attributes and aesthetics.
 - a. The cost assumption is to replace windows like kind with new double pane windows with no consideration for upgraded UV glass, energy, or reflectivity.
 - b. Associated woodwork and caulking are included in cost assumption.
 - c. Environmental is not included in the cost assumption for this line item.
 - d. Door replacement would include keeping the existing frame and only replacement of the door, weather stripping and threshold.
 - i. Frames remain as removing the same very possibly can create a structural issue and additional work to prep the opening for a new frame.
- 9) Repoint Masonry – Repointing scope includes removal of the old mortar and replacement with new.
 - a. Compromised existing mortar can provide an area of water infiltration of which cannot be seen necessarily from the interior.
 - i. If this is occurring, it is very possible there is mold within the interior walls which would need to be mitigated. It may be encountered thru the other upgrades where walls would need to be opened to do the work.
 - b. Spot pointing is an option where only the visible and clearly compromised mortar would be replaced.
 - c. Repointing does not include any structural work on the brick but more specifically at the headers and lintels.
 - d. CHA cost estimate assumes full repointing.
 - i. An envelope consultant would further advise as the specifications of the mortar and whether the full repointing is needed.
 - ii. The consultant may advise on weather sealant as well in select areas of which cost is not included in the assumptions.
- 10) Renovate 8 - 10 bathrooms (new toilets) – Cost assumption includes heavy renovations for the bathrooms, additional water fixtures and compliance with ADA.
 - a. Cost assumptions includes new core drilling, plumbing and electrical as well as expanding the footprint of the bathrooms to provide for accessibility.
 - b. Expansion of the bathroom footprint may include relocation of other plumbing and electrical which is considered in the cost estimate.
 - c. Loss of hallway and/or usable space would occur.
 - d. An Architect would need to provide for a schematic design to understand the entirety of the scope which may cause for more cost impact.
 - e. CHA cost estimate is conservative. Environmental remediation would be needed as well.



- 11) Elevator replacement – Cost includes new exterior shaft for the elevator.
 - a. The shaft will be structural which will require a foundation.
 - i. Assumption assumes steel and CMU masonry.
 - b. Shaft is fire sprinklered and temperature controlled.
 - c. Cost includes new openings in each floor and associated structural work and wall/interior work and flooring.
 - d. Replacement of the existing elevator may not be possible due to newer elevators being differently sized and requiring more space.
 - e. Replacement in current location would require major structural work should the shaft be expanded as well as loss of space and relocation of MEP and as such very well would be more than installing a new elevator on the outside of the building.
- 12) Replace interior doors and hardware – Given the size of the building and programming areas, the cost estimate includes replacement of all the doors and hardware.
 - a. Replacement includes the doors frames for non-fire rated doors.
 - i. Fire rated door frames would remain in place.
 - b. Hardware is generic and does not include any FOB or electronic system. It can include a master keyed system.
 - i. If there was a new building, we would recommend an FOB/electronic system for safety and security control.
- 13) New Furniture with electrical integrated – The furniture layout would need to be designed and provided but assuming in most locations, cost assumption provides for electrical feeds.
 - a. Electrical feeds would be surface mounted where possible.
 - b. If trenching into the slab or deck is needed, this is assumed in our cost for a few areas but not everywhere.
 - c. There is some consideration for environmental remediation.
 - d. Upgraded of main electrical panel is not included but an ancillary panel is considered in the assumption.
 - e. An MEP engineer would need to calculate the loads of the electrical needs of the building which would determine to what extent electrical panel upgrades are needed.
- 14) Repave parking lot – Cost assumption includes a full rip up of existing for the entire footprint and replace with asphalt in two 1.5" lifts and line painting.
 - a. Cost assumption includes some regrading where needed.
 - b. Replacement of storm water catch basins and lines is not included.
 - c. No underground civil work is included.
 - d. Recommendation from CHA would be go to a permeable surface instead of asphalt which helps with storm water management but is an appropriate sustainable approach.



15) Paint interior building – Cost assumption includes crack repairs, prime and paint like color.

16) Fire suppression for Claflin Room – Cost assumption is for a dry system for this room.

- a. The pipe work would be surface mounted and the equipment on the exterior.
- b. A FLS engineer would need to advise on the design detail and whether its viable and code approved.
- c. A wet system is not possible without creating a fire suppression pump equipment dedicated interior area and as well provide for a separate fire sprinkler line from the street which is why we assumed a dry system as being most viable.
 - i. A dry system is a chemical fire suppression system like you would see in a garage.
 - ii. A wet system is pressured water which is normally seen in interior of buildings.

17) Automatic sprinkler system (wet) – The viability of this work would need to be determined by a FLS engineer.

- a. A fire pump would be needed.
- b. A room or area for the fire pump would be needed, fire alarm would be integrated with the sprinkler system.
- c. CHA cost assumption is for surface mounted piping, new fire pump and ancillary work for a functional system.
- d. CHA cost does not include new fire water supply from the street to the fire pump location.
- e. Electrical is considered in the cost but not a fully new electrical power feed or main replacement.

18) Upgrade electrical coverage and service – Allowance provided.

- a. Assumption includes replacement of existing in same location.
- b. Replacement of outlets throughout not included.
- c. Replacement of light fixtures to LED not included.
- d. Replacement of old wiring throughout not included.
- e. Low voltage wiring / rewiring not included.
- f. Relocation of existing main and panels not included.
 - i. Do not recommend this scope without fully understanding and/or deciding upon future electrical requirements.

19) Replace HVAC system – Cost assumes full replacement of the HVAC system including all components, duct work and equipment.

- a. Cost assumes environmental remediation and all wall/ceiling replacement that is removed.
- b. Cost includes building management systems and controls.
- c. Cost assumes replacement in similar size and general locations.



- d. This effort must coordinate with MEP and FLS engineers as well as an architect.
 - i. Involves energy modeling and should consider other components of the renovation such as insulation and window replacement which directly affects the efficiency of the system.
- 20) Building Management System (BMS) – Scope includes tying in the existing HVAC system and all its pieces into a centralized control console.
 - a. An MEP engineer would be needed to design and specify the system.
 - b. CHA note – This scope may not be possible as the current HVAC system and its equipment may not accommodate a BMS system and as such would require the replacement of the HVAC system.
- 21) Add in alternates from alternate B – n/a to comment – notation from spreadsheet as numeral item.
- 22) Front stairs – The stairs are in disrepair. Stair replacement cost assumptions include:
 - a. Demolition of the stairs
 - b. Resetting of the base and new structural – including possible regrading
 - c. Installation of new stairs, treads, and railings
 - d. Lighting maybe required so consideration of electrical is assumed.
- 23) Front ramp – A ramp for ADA access needs to be provided. The cost assumption includes:
 - a. Demolition of what is existing in the ramp location
 - b. Grading
 - c. Z shaped ramp to meet ADA sloping standards.
 - d. Base and concrete for such a ramp as well as any structural component
 - e. Consideration of landscaping / soft ground repairs around the construction of the ramp
 - f. Standard two-tier ADA railings – hollow metal tubing with electrostatic paint
 - g. Lighting maybe needed as well but that is not part of the costs.
- 24) Add in elevator true replacement – Commented on item #11