

FY 2019-2024 CIP PROJECT DESCRIPTIONS

NOTE: The figures included in this report are based on the best available cost estimates at the time of the development of the CIP and are subject to change due to revised estimates and bids.

GENERAL GOVERNMENT

1. GARAGES AT LARZ ANDERSON

The fuel tank located on site is not used anymore and should be removed, along with the gas pumps, in order to avoid a possible leak in the future.

Estimated Cost: \$125,000

Time Schedule: FY 2021 -- \$125,000 Property Tax / Free Cash

2. TOWN BUILDING FURNITURE

This item allows for the replacement of aging furniture at Town Hall and other non-school buildings.

Estimated Cost: \$125,000

Time Schedule: Prior Year -- \$50,000 Property Tax / Free Cash
 FY 2022 -- \$25,000 Property Tax / Free Cash
 FY 2024 -- \$25,000 Property Tax / Free Cash

3. GARAGE FLOOR SEALANTS

Sealants are required for concrete suspended floors every 7 years. If the floor is not properly sealed to prevent corrosion of the concrete and rebar, the floor will deteriorate rapidly. This will lead to premature failure and costly involved repairs including new concrete and possibly structural repairs.

Those floors include:

Municipal Garage	Fire Station No 4
Main Library	Fire Station No 6
Fire Station No 1	Fire Station No 7

Estimated Cost: \$600,000

Time Schedule:	FY 2021 -- \$150,000	Property Tax / Free Cash
	FY 2022 -- \$150,000	Property Tax / Free Cash
	FY 2023 -- \$150,000	Property Tax / Free Cash
	Future Years -- \$150,000	Property Tax / Free Cash

4. PUBLIC SAFETY HVAC MODIFICATIONS

The Public Safety Department continues to invest and expands its communications (E911/radios) and data information systems. There are two rooms at Public Safety that house this equipment. The spaces are sized adequately but the infrastructure needs to be expanded to meet the needs of the equipment loads. This would be for power and cooling. These spaces presently have HVAC systems, with back up capacity that is presently undersized and needs to be increased. In addition, the equipment has exceeded its useful life. Power is limited in these spaces and was originally sized for the equipment that was installed when the building was renovated many years ago. Also the layout of the equipment with new, different racks stifles air flow and cooling capabilities. A study was conducted that reviewed the MDF spaces at the High School, Town Hall and Public Safety buildings. This study recommended a number of improvements for these critical areas at Public Safety. As part of a 24/7 operation the equipment is extremely important and essential for the operation of the department and safety of the community. The support systems including e911 must be reliable and dependable. The request of \$125,000 is broken out as follows: \$12,000 for design services, \$18,000 for electrical upgrades and modifications to the emergency generator circuits and \$95,000 for the HVAC upgrades and modifications.

Estimated Cost: \$125,000

Time Schedule:	FY 2019 -- \$125,000	Property Tax / Free Cash
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5. TOWN REHAB/UPGRADES

This is an on-going town-wide program for the repair and upgrade of Town facilities in between major renovation projects. Items funded under this program include large scale painting programs, new flooring, ceilings, window treatments and toilet upgrades. This program avoids more expensive rehabilitation that would be necessary if these items were left to deteriorate.

Estimated Cost: \$490,000

Time Schedule:	Prior Year -- \$50,000	Property Tax / Free Cash
	FY 2019 -- \$50,000	Property Tax / Free Cash
	FY 2020 -- \$50,000	Property Tax / Free Cash
	FY 2021 -- \$50,000	Property Tax / Free Cash
	FY 2022 -- \$50,000	Property Tax / Free Cash
	FY 2023 -- \$75,000	Property Tax / Free Cash
	FY 2024 -- \$80,000	Property Tax / Free Cash
	Future Years -- \$85,000	Property Tax / Free Cash

6. TOWN HALL DATA ROOM IMPROVEMENTS

As the Town continues to invest in technology that enables critical and anytime access to information and communication, the infrastructure needed to maintain information availability and access plays an equally essential role. Having completed a recent study by an outside consultant to determine the optimal operating environment for the Town Data Center, this project seeks the necessary monies to invest in power and cooling upgrades. This request of \$120,000 is jointly made by the Building and IT Departments in order to address the continued reliance on the enterprise computing environment for 7 day per week/24 hours per day availability. The breakout is as follows: \$70k for HVAC upgrades, \$30k for electrical upgrades, and \$20k for as-built documentation.

Estimated Cost: \$120,000
 Time Schedule: Prior Year -- \$120,000 Property Tax / Free Cash

7. TECHNOLOGY APPLICATIONS

This annual appropriation is for funding the projects included in the Information Technology Department's Long-Term Strategic Plan, which serves as the framework for the selection and management of technology expenditures and is updated periodically by the Chief Information Officer (CIO). Moreover, additional projects that meet the short-term objectives set by the CIO and appropriate committees provide the guidance for the Town's approach to technology management. Primary focus areas for IT investments include Infrastructure lifecycle replacement, Enterprise Applications/Better Government initiatives, School Technology, and Public Safety enhancements. Special consideration is given to projects that reduce operating expenses and / or create efficiencies.

Estimated Cost: \$1,075,000
 Time Schedule: Prior Year -- \$175,000 Property Tax / Free Cash
 FY 2020 -- \$150,000 Property Tax / Free Cash
 FY 2021 -- \$150,000 Property Tax / Free Cash
 FY 2022 -- \$150,000 Property Tax / Free Cash
 FY 2023 -- \$150,000 Property Tax / Free Cash
 FY 2024 -- \$150,000 Property Tax / Free Cash
 Future Years -- \$150,000 Property Tax / Free Cash

PLANNING & COMMUNITY DEVELOPMENT

8. GATEWAY EAST / VILLAGE SQUARE CIRCULATION IMPROVEMENTS

This significant public works project involves reconfiguration of the existing circulation system in Brookline Village at Washington Street, Route 9, Walnut Street, High Street, and Pearl Street. The existing jughandle, currently used to provide access to Washington Street from Route 9 eastbound, will be removed and replaced with a new four-way intersection at Pearl Street. Signals will be relocated and upgraded and a new ADA-compliant surface-level pedestrian crosswalk with walk signal will cross Route 9 just west of Pearl Street as part of a new four-way intersection, replacing the demolished pedestrian bridge that had once provided a protected crossing on Route 9. In

addition, the project will include enhanced bicycle accommodation via protected bicycle lanes, and lighting and landscaping improvements. The project will improve the overall safety and aesthetics of this portion of Route 9 and Brookline Village.

Funding for project construction is assumed to come from multiple sources:

1. Transportation Improvement Program (TIP) – Gateway East is programmed in the Boston MPO’s TIP for \$4,818,000 in Federal Fiscal Year 2018 toward a \$5,818,000 construction project. Recent project cost estimates based on the Town’s October 20, 2017 75% design submittal to MassDOT has increased the construction budget to \$8,107,000. It is estimated that the TIP will cover \$7,107,000 in Federal Fiscal Year 2018 toward a \$8,107,000 construction project.
2. The Town’s Gateway East construction match of \$1,000,000 will be filled by:
 - Children’s Hospital mitigation (1% Off-Site Improvements--2 Brookline Place) \$750,000 and
 - \$250,000 in CDBG (or combination of Ch. 90 and/other Town sources)

Funding for Right-of-Way Acquisition is assumed to come from multiple sources:

1. The Town is responsible for acquisition costs for all Temporary and Permanent easements needed for the Gateway East project. The estimated cost is \$1,300,000. It should be noted that the Town previously sought and received Town Meeting authorization to utilize a Section 108 loan, which is a tool that can be used to undertake CDBG-eligible activities when a lump sum is needed to move a large scale project forward. The Town may once again seek authorization from Town Meeting to secure a Section 108 loan as a funding source to pay for the acquisition of needed permanent and temporary right-of-way to accommodate the Gateway East project. Under a Section 108 loan, a community borrows against its future allocation of CDBG funds. Like a conventional loan, the Section 108 loan would have an amortization term, but instead of making payments, the Town's loan is paid back once per year off the top of its CDBG entitlement allocation. The loan must be backed by the Town’s full faith and credit.
2. The Town’s right-of-way acquisition costs of \$1,300,000 will be filled by:
 - \$280,000 in prior year CDBG funds earmarked for acquisition (FY17 CDBG allocation)
 - \$1,020,000 from a Section 108 Loan
 - combination of Ch. 90 and/or other Town sources

Right-of-way acquisition costs presented are preliminary estimates. Under State statute, the Town may not discuss easement acquisition with property owners until MassDOT’s Environmental and Community Compliance divisions give clearance for the Town to move forward.

Estimated Cost: \$9,127,000

Time Schedule:	Prior Year -- \$750,000 FY2019 -- \$7,107,000 FY2019-- \$250,000 FY2018 -- \$1,020,000	ther (1% Off-Site Improvements--2 Brookline Place) Federal Grant (via State TIP) Federal Grant (CDBG) Federal Grant (CDBG) Section 108 Loan
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9. ZONING BY-LAW REORGANIZATION

The Town of Brookline Zoning By-Law was first adopted by Annual Town Meeting in May 1962. Since its adoption, the Zoning By-Law has been amended more than 70 times. These amendments were recommended to address various concerns within the Town for residential and commercial land use and development. In addition, there have been a number of amendments adopted to promote redevelopment in specific areas in Town.

The proposed revisions to the Zoning By-Law over the years were recommended to resolve neighborhood issues regarding setbacks, density or other concerns. There have also been many revisions to promote good development and redevelopment within a specific zoning district in Town. The Zoning By-Law, in its current version, is the culmination of numerous amendments reacting to onetime events or concerns resulting in a reactionary document. This approach has been done for years without examining the impact of other provisions of the by-law creating unintended consequences including inherent inconsistencies. The current version of the by-law is not user friendly, difficult for the public to comprehend, difficult for the Town to interpret and enforce, and creates a strain on economic development in the areas where economic development should be considered. The end result would be a document that is clearer, more understandable, and easier for the public to follow and use.

This funding would be used to engage the services of a consultant, or consultants for the purpose of the performing a comprehensive review of the Zoning By-Law. The Zoning By-Law will be reviewed/rewritten to identify and then correct contradictions and inconsistencies that inadvertently resulted from the adoption of such amendments and otherwise; to address specific issues that have come before the Planning Board and Zoning Board of Appeals; to account for changed circumstances in land use patterns and other conditions in the Town; to recognize recent judicial decisions and statutory amendments; and to clarify language and improve organization.

A consistent and well-written Zoning By-Law will provide a solid foundation for regulatory decisions and a clearer set of rules for applicants, Town staff, and regulatory agencies. It will also provide consistency with the laws of the Commonwealth of Massachusetts. The product of their work is anticipated to provide a better land use guide that reflects the policies and procedures of the Town and the Commonwealth.

Estimated Cost: \$250,000

Time Schedule: FY2019-- \$250,000 Property Tax / Free Cash

PUBLIC SAFETY

10. FIRE APPARATUS REHAB

The Town's policy is to replace front-line fire engines every 17 years and front-line ladder trucks every 20 years. While this replacement schedule serves the Town very well, funding needs to be appropriated every 10 years to rehab engines and every 12 years to rehab ladder trucks. The breakout of the proposed funding is as follows:

Engine #6 = \$50,000 (FY18) Quint #4 = \$500,000 (FY20)

Unfortunately, Engine #6 was excluded from the refurbishment schedule while it would have been rehabbed in 2012.

Quint 4 was purchased in 2010. In keeping with the Town’s policy of refurbishing fire engines at 10 years the quint will need to be refurbished in 2020. While the Quint has an aerial ladder on it, we typically operate it as an engine company and therefor fall under the 10 year guideline. However, the refurbishment costs will be higher than a traditional fire engine due to its dual design.

Ladder #12 (formerly Ladder #2), which serves as the Department’s spare ladder, is a 1995 Pierce that was rehabbed in 2007 - 2008. In FY21, the Department’s front-line ladder trucks should be in excellent condition if the current replacement plan is adhered to. However, Ladder #12 will be quite old and in need of replacement or rehab. While it was thought that Ladder #12 could be rehabbed for approximately \$200,000, on the recommendation from our Master Mechanic, attempting a rehab is not recommended based on extensive rust and corrosion that currently exist and would only be worse in two years from now.

Estimated Cost: \$1,550,000

Time Schedule:	Prior Year -- \$50,000	Property Tax / Free Cash
	FY 2020 -- \$500,000	Property Tax / Free Cash
	Future Years -- \$1,000,000	Property Tax / Free Cash / General Fund Bond

11. ENGINE #1 REPLACEMENT

Using the Town’s replacement schedule, Engine No. 1 will be due for replacement in FY 2023. Considering the Town just bought a pump for \$625,000 (Item 12 – Engine 6) and using the 3% inflation estimate per year, the projected cost is estimated at \$725,000

Estimated Cost: \$725,000

Time Schedule:	FY2023 -- \$725,000	General Fund Bond
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12. ENGINE #6 REPLACEMENT

Keeping with the current policy of engine replacement at 17 years, Engine #6 would need to be replaced in FY19. Unfortunately, Engine #6 was not rehabbed when it was scheduled in 2012. While we rely upon these replacement engines becoming spare apparatus, which are frequently put into front line status, we are requesting to purchase this engine in FY18 so a minimal rehab can be performed on the engine it is replacing to be a quality reserve. The replacement cost is estimated to be \$625,000 in FY18.

Estimated Cost: \$625,000

Time Schedule:	Prior Year -- \$625,000	Property Tax / Free Cash
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13. CAD SYSTEM UPGRADE

The Police Department is looking to update our (Larimore) Public Safety programs, to the new programming language in C# (C-Sharp Programming Language). The Town's current CAD (Computer Aided Dispatch) system has been dispatching Police/Fire/EMS calls for over 10 years.

The new system will have the ability and functionality to support multi-jurisdictional multi-agency dispatching for Police, Fire, and EMS. This flexible system will allow dispatchers to be assigned geographical areas, individual agencies, or both. Unit recommendations based on call location via unit's AVL (Automated Vehicle Locators), and the ability to dispatch resources to any location by premise name. Premise information will have previous call history, hazardous material information, SOP's (Standard Operating Procedures) and patrol file information; all will be available by location as the call is being managed.

The system will have a CAD alert feature allowing time sensitive information to be entered as an alert, stored as a call transaction, and given to dispatchers as a visual notification of crucial information. The system will have Embedded Map on the dispatch and call taking screen, which allows dispatchers to assign units directly from the mapping component, as well as the call list. The new CAD system will have built-in interfaces for mapping, E-911, mobile data and tablet based systems, State NCIC, D-CJIS, and external digitizer fire alarm systems. The CAD system will interface with the Records Management and Scheduling System. The system will have the ability to interface into the department's camera network(s) by a direct address link to a camera, if a camera is in the location of a E-911 call the camera will PTZ (Pan-Tilt-Zoom) into the area of the call, giving the dispatcher the ability to view that camera.

The upgraded CAD system will be fully compatible with Phase 2 wireless E-911 providers. The system will have a certified interface to Pro/QA Medical application and will be set up for Next Generation 911 which is an IP based system that allows and captures digital information, such as, voice, photos, videos and text messaging from the 911 network to the CAD system.

The State has stated Brookline can expect to cut over on the Next Gen 911 System, sometime this upcoming spring (2017), which makes the upgraded CAD system a top priority in order to accept the new Next Gen 911 standards and data flow. Within the next 3 to 6 months Brookline will be receiving wireless 911 calls to our dispatch center, currently these wireless calls are routed to the Mass State Police, with Brookline accepting these calls directly, the CAD system needs to be upgraded to accept the new wireless information, such as latitude, longitude and height to pinpoint the exact location of the call. It is imperative that we have a upgraded CAD system in place, to be able to interface to the new State wireless 911 calls and most importantly for the Next Generation 911 system.

Other applications that have to be upgraded (re-written) to the new C# environment are:

Scheduling System \ Training System \ Records Management System \ Intelligence System \ Detective Case Management \ Arrest- Booking System \ National Incident Based Reporting Systems (NIBRS) \ False Burglar Alarm Tracking and Billing System \ Detail Assignment and Billing System \ Total Overtime tracking System \ Evidence Tracking System \ Field Interview System \ Situation Tracking and Analysis System \ Parking Ticket System and RMV Data Exchange Systems \ Towed Vehicle System \ Internal Affairs System \ Liquor Law and Lodging House Tracking System \ Department Property Tracking System, Vehicle Inspection-Equipment System, and Hackney System. Over the last few years we have updated the foundation of the operating system to C# (C-

Sharp) and new applications such as Traffic Case Management System and Crisis Intervention System have been written in the C# environment.

The new Larimore System also has developed Apps for smart phones and tablets, both for IOS and Android operating systems. These modules will connect to the CAD system and the Records Management system and will be part of the new installation. The Total cost is estimated at \$485,000.00. Because of the need to upgrade the CAD portion during this fiscal year, funds in the amount of approximately \$65,000.00 have been appropriated and the upgrade of the CAD will proceed during the current fiscal year. Therefore, we are seeking funding in the amount of \$420,000.00 to complete the entire project.

Estimated Cost: \$200,000

Time Schedule: FY 2019 -- \$200,000 Property Tax / Free Cash

14. FIRE STATION RENOVATIONS

A study was made of the conditions of the fire stations and what was needed to maintain the integrity of the floors and building in regard to the newer, larger fire equipment. The work outlined in the report includes flooring, shoring, beams, columns, and structural work. The report also includes recommendations for the HVAC systems, generators, lighting, life safety, and mechanical, electrical, plumbing (MEP), along with other peripheral systems.

The report broke the work into three categories: (1) structural, (2) life safety systems, and (3) MEP. The recommended approach was to fund all required structural work in the first year (\$625,000 was approved in FY12), then fund life safety systems by stations as prioritized by the Fire Chief (FY13 – FY15), and then undertake the MEP work (starting in FY17). Given the work planned for Station 6 the funding schedule for Station 6 MEP work was moved from FY2021 to FY2017 in order to allow efficiencies with bids and project schedules. Additional structural work needed at this site is also included.

In addition to the \$350,000 in FY21 for Station #7, there is \$120,000 included for modifications of egress (the creation of a second means of egress), and for alterations and repairs to the locker room, and \$110,000 for improvements to the second floor living area. Including new walls/doors/frames in rooms and paint/flooring.

The estimates for remaining work at each station are as follows:

Sta 6 (Hammond St.)	\$670,000 (FY17)
Sta 5 (Babcock St)	\$220,000 (FY18)
Sta 4 (Rt. 9/Reservoir Rd)	\$445,000 (\$60K FY18, \$385K FY19)
Sta 1 (Brookline Village)	\$450,000 (FY21)
Sta 7 (Washington Sq)	\$620,000 (\$350K FY21, \$270K FY23)
TOTAL	\$2,405,000

Estimated Cost: \$1,735,000

Time Schedule:	Prior Year -- \$280,000	Property Tax / Free Cash
	FY 2019 -- \$385,000	Property Tax / Free Cash
	FY 2021 -- \$800,000	Property Tax / Free Cash
	FY 2022 -- \$270,000	Property Tax / Free Cash

15. WASHERS AND DRYERS FOR PERSONAL PROTECTIVE EQUIPMENT (PPE)

The National Fire Protection Agency (NFPA) standard 1851 details the care of Personal Protective Equipment (AKA Turnout Gear) including the cleaning or “decontaminating” of such equipment. In summary, the standard recommends routine cleaning as well as immediate cleaning after being soiled due exposure in fires or other medical emergencies.

In recent years, it has been identified that:

- Turnout gear worn on previous fire-related calls, without cleanings in between, diminishes in ability to protect the wearer.
- Over the long term, turnout gear that is always dirty doesn’t last as long.
- Turnout gear worn on previous calls presents other kinds of hazards. While on the job, firefighters come in contact with carcinogenic materials, toxins and communicable disease found in blood or other body fluids. These hazards can then be carried away to potentially cause harm later by ingestion, inhalation or absorption from touch. The firefighter, or anyone else who has contact with the turnout gear, is then at risk.

For these reasons, the Fire Department is seeking \$71,000 in funding to purchase three extractors (washers) and five dryers so every fire station in town is equipped to properly handle cleaning of their Personal Protective Equipment.

Estimated Cost: \$71,000

Time Schedule: Prior Year -- \$71,000 Property Tax / Free Cash

LIBRARY

16. COOLIDGE CORNER LIBRARY - ELEVATOR (ADA)/ REAR WINDOWS/CARPETING

The Coolidge Corner Library is presently only fully accessible at the front main entrance. On the lower level in the rear is a meeting room and toilets, and this room is not handicap accessible from the upper level; the only access is through a rear door. In order to make the library fully accessible, an elevator is proposed for installation at the rear of the library, which would allow access directly below, estimated to cost \$285,500.

There are nine large panels of glass windows in the rear of the building dating from the original construction in 1970. The glass is not insulated and is loose in a number of areas. All the glass would be replaced with operable

windows that can be locked for security purposes. \$155,000 is included for plans and specs (\$15,000) and the windows (\$140,000).

The majority of the carpet was installed in 1997 and is now more than 15 years old. This project will replace approx. 15,000 sq. feet of carpet at an estimated cost of \$100,000.

Estimated Cost: \$646,500

Time Schedule: Prior Year -- \$646,500 Property Tax / Free Cash

17. PUTTERHAM LIBRARY BATHROOM RENOVATIONS

With the exception of one recently installed ADA compliant bathroom, all 5 bathrooms at the Putterham library are original to the construction of the building in 1961. They are cramped, unattractive, frequent victims of plumbing problems, and are non-compliant with ADA laws.

Replacement of the two bathrooms outside the program room with one ADA accessible, unisex bathroom, replacement of the two bathrooms at the front of the library near the circulation desk with one ADA accessible, unisex bathroom, and replacement of the staff bathroom in the basement with an ADA accessible, unisex bathroom (\$150,000).

Estimated Cost: \$150,000

Time Schedule: FY2019 -- \$150,000 Property Tax / Free Cash

TRANSPORTATION

18. TRAFFIC CALMING / SAFETY IMPROVEMENTS

A total of \$443,659 has been allocated for various Traffic improvement projects. In FY2019, \$85,000 is proposed for a Traffic Signal Safety Improvement project located at Walnut St at Kennard Rd and Chestnut Street. The goal is to increase the safety of the intersection following a request by neighborhood residents and the school department following a student being struck at the intersection while crossing Walnut Street. The current pedestrian actuated signal operates with Walnut Street flashing yellow and Kennard and Chestnut flashing red. When a pedestrian actuates the signal via a push button all approaches turn red and the pedestrian is allowed to cross. However feedback on the operations of the signal during the staff investigation and Transportation Board meeting was that drivers are used to the flashing yellow and often run the red because they do not expect it to change, especially during rush hour when the volumes of both pedestrians and motorists are high.

Based on a the engineers report, including a traffic signal warrant analysis, the Transportation Board approved the upgrade in November 2016 to a full traffic signal with green, yellow, red operations. The cost of the project includes:

- Modifying the traffic signal controller to accommodate the proposed timing and phasing.
- Replacing the traffic signal head sections.

- Upgrading the traffic signal back plates with black back plates with yellow reflective strip.
- Upgrade the pedestrian signal heads with 16" LED pedestrian displays with countdown displays.
- Upgrade the pedestrian push buttons with audible & vibro tactile pedestrian push buttons with field adjustable arrow.
- Install a vehicle actuation detection system.
- Install emergency pre-emption capabilities such that they are compatible with the existing pre-emption systems used by Town of Brookline emergency services.

Estimated Cost: \$443,659

Time Schedule:	Prior Year -- \$58,659	Property Tax / Free Cash
	FY 2019 -- \$85,000	Property Tax / Free Cash
	FY 2020 -- \$50,000	Property Tax / Free Cash
	FY 2021 -- \$50,000	Property Tax / Free Cash
	FY 2022 -- \$50,000	Property Tax / Free Cash
	FY 2023 -- \$50,000	Property Tax / Free Cash
	Future Years -- \$50,000	Property Tax / Free Cash

19. BICYCLE ACCESS IMPROVEMENTS

The Essex Street Separated Bicycle Lane project, part of the Transportation Board’s Green Routes Master Network Plan, is a sidewalk level, raised cycle track on Essex Street from the Town border to Dummer Street and a raised intersection connecting to the existing Essex Street contra-flow bike lane. The project is meant to create a safe regional connection for the bicycle route which links the BU Bridge, Muddy River Path, City of Cambridge, and the new cycle tracks on Commonwealth Avenue to the north with Beacon Street and the Longwood Medical Area to the south via the Cottage Farm bicycle route on Essex, Ivy, and Carlton Streets. This is consistently one of the highest used regional bicycle routes in the Town of Brookline with the number of cyclists using the route increasing over 250% between 2008 and 2016 and is a priority project which was approved by the Transportation Board. The project includes all construction, pavement marking, and signage necessary to construct the project and restore the roadway.

Estimated Cost: \$209,775

Time Schedule:	Prior Year -- \$33,000	Property Tax / Free Cash
	FY2019 -- \$176,775	Property Tax / Free Cash

20. PARKING METER TECHNOLOGY UPGRADE

As parking meter rates increase and less people carry coins users of our parking meter system have continuously requested that the Town implement new parking meter technologies to offer alternative forms of payment. In 2013, the Town of Brookline upgraded our metered public parking supply to provide improved customer convenience, ensure a regular turnover of spaces in our high demand areas, and improve municipal maintenance

and collection operations. This deployment included the installation of Digital Luke multi-space parking meters in public parking lots and over 500 IPS single space credit card acceptance parking meters on-street in our high use districts along portions of Beacon Street, Harvard Street, Kent Street, and Brookline Avenue. Use of these single space parking meters have been widely accepted and supported by general users, merchants, and others. As parking meter rates increase and less people carry coins, the Brookline Chamber of Commerce and other business and civic leaders have requested that the Town replace the remaining 1,320 POM coin only single head parking meter mechanisms with IPS credit card accepting parking meters over a 5 year period. The per unit price of \$610 per mechanism includes meter mechanism, installation and commissioning, and extended 12 month warranty.

Estimated Cost: \$644,160

Time Schedule:	Prior Year -- \$161,040	Property Tax / Free Cash
	FY 2020 -- \$161,040	Property Tax / Free Cash
	FY 2021 -- \$322,080	Property Tax / Free Cash

21. CARLTON ST./MONMOUTH ST. TRAFFIC SIGNALS

The Engineering/Transportation Division has received many complaints about the traffic signals at the intersection of Carlton Street and Monmouth Street particularly about the lack of appropriate pedestrian signals. The major complaint is that pedestrians don't feel safe crossing at this intersection. This funding will be used to evaluate the existing condition of the traffic signals and propose upgrades to meet current standards. The construction will involve upgrading the traffic signal equipment, replacing sidewalks, repaving the intersection and installing pavement markings.

Estimated Cost: \$333,663

Time Schedule:	Prior Year -- \$333,663	Property Tax / Free Cash
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ENGINEERING/HIGHWAY

22. STREET REHABILITATION - TOWN

In 1992, the Department of Public Works (DPW) undertook a comprehensive study of its roads and implemented a pavement management system. The system was designed to bring Town-owned streets to a sufficient level of repair such that the roads could be maintained without undertaking costly full reconstruction. From 1992 to 1997, the Town made some progress in this regard, but funding was inconsistent. Starting in 1997, the Town began allocating \$1 million per year to streets, in addition to Chapter 90 funding from the State.

Based on the recommendations of the 2007/2008 Override Study Committee (OSC), the 2008 Override approved by the voters included \$750,000 for streets and sidewalks, to be increased annually by 2.5%. In FY19, the appropriation is recommended at \$1.71 million (the original \$1 million base plus the \$300,000 added in FY09 increased annually by 2.5%).

Estimated Cost: \$14,540,000

Time Schedule:

Prior Year -- \$1,670,000	Property Tax / Free Cash
FY 2019 -- \$1,710,000	Property Tax / Free Cash
FY 2020 -- \$1,750,000	Property Tax / Free Cash
FY 2021 -- \$1,790,000	Property Tax / Free Cash
FY 2022 -- \$1,830,000	Property Tax / Free Cash
FY 2023 -- \$1,880,000	Property Tax / Free Cash
FY 2024 -- \$1,930,000	Property Tax / Free Cash
Future Years -- \$1,980,000	Property Tax / Free Cash

23. STREET REHABILITATION - STATE

The State provides monies under its Chapter 90 program for improvements to certain streets. About 1/3 of Brookline's streets are eligible for 100% State reimbursement. This money supplements the funding appropriated from Town funds for street rehabilitation. An annual \$300 million statewide Chapter 90 program is assumed.

Estimated Cost: \$7,684,840

Time Schedule:

Prior Year -- \$960,605	State Grant
FY 2019 -- \$960,605	State Grant
FY 2020 -- \$960,605	State Grant
FY 2021 -- \$960,605	State Grant
FY 2022 -- \$960,605	State Grant
FY 2023 -- \$960,605	State Grant
FY 2024 -- \$960,605	State Grant
Future Years -- \$960,605	State Grant

24. SIDEWALK REPAIR

The Department of Public Works developed a sidewalk management program. Some sidewalks are reconstructed as part of the street reconstruction program; those that are not are funded under this program. Based on the recommendations of the 2007/2008 Override Study Committee (OSC), the 2008 Override approved by the voters included \$750,000 for streets and sidewalks, to be increased annually by 2.5%. Of the FY09 override amount, \$50,000 was appropriated for sidewalks. In FY19, the appropriation is recommended at \$320,000 (the original \$200,000 base plus the \$50,000 added in FY09 increased annually by 2.5%).

Estimated Cost: \$2,726,000

Time Schedule:

Prior Year -- \$312,000	Property Tax / Free Cash
FY 2019 -- \$320,000	Property Tax / Free Cash

FY 2020 -- \$328,000	Property Tax / Free Cash
FY 2021 -- \$336,000	Property Tax / Free Cash
FY 2022 -- \$344,000	Property Tax / Free Cash
FY 2023-- \$353,000	Property Tax / Free Cash
FY 2024 -- \$362,000	Property Tax / Free Cash
Future Years -- \$371,000	Property Tax / Free Cash

25. PARKING LOT REHABILITATION

Since its construction in 1965, the Centre Street parking lot has not had any substantial maintenance work done. Repairs have been more reactive and of the "band-aid" type and significant renovations in terms of curbing, pavement, and associated improvements are necessary. The Center St. East Parking Lot / Harvard St. Study calls for the expenditure of \$100,000 to hire a consultant to further develop conceptual plans prepared as part of a preliminary Reconfiguration Study conducted in 2014. There is a great opportunity for the Town to identify and then integrate other needs confronting Coolidge Corner into planning for the parking lot, thereby promoting an efficient use of the publicly owned parcel. Once this study is complete, there will be a better understanding of the opportunities and costs. The \$205,000 shown in Future Years is the estimate for the more traditional repaving and resetting of curbing.

Estimated Cost: \$205,000

Time Schedule: Future Years -- \$205,000 Property Tax / Free Cash

26. MUNICIPAL SERVICE CENTER SITE IMPROVEMENTS

The 10' high cedar fence which borders the 2nd fairway of Putterham Meadows Golf Course is over twenty years old and is falling over. The posts have deteriorated to a point that temporary steel posts had to be installed to keep the fence upright. The cedar slats have split and many are missing leaving gaps in the fence. Approximately 830' of fencing is in need of removal and replacement.

In order to increase the much needed parking and storage areas opposite the mechanic's bay and the salt shed a 3.5' high concrete retaining wall is proposed along the 2nd fairway at the golf course. With the retaining wall the pavement will be increased by +/- 10'. Approximately 300' of new retaining wall will be installed.

Estimated Cost: \$240,000

Time Schedule: Prior Years -- \$240,000 Property Tax / Free Cash

27. FIRE ALARM CALL BOX SYSTEM

The Department of Public Works operates and maintains the Town's Fire Alarm Call Box System that consists of 297 street call boxes along the public way, 203 master station call boxes within buildings (of which 42 are publicly owned), and a network of underground conduit and cable and overhead cable providing both power to the boxes and communication to central dispatch at the Public Safety Building. The system provides notification to Dispatch for deployment of fire resources and emergency medical response. The DPW's ability to maintain this aging system has been hampered by inaccurate mapping of conduit and cable locations as well as out-of-date equipment.

In 2015, the DPW and the Fire Department engaged the services of Environmental Partners Group, Inc. to update the entire system inventory, perform a condition study and recommend options for the upgrade or replacement of the system. Information gathered from central dispatch has also revealed that only 239 pulls were recorded over a 10 year period from 130 street boxes and that 167 street boxes had no activity over the same 10 year period. The following options were provided by EPG to upgrade or replace the system:

1. Repair the existing hard-wired system (\$3,800,000)
2. Replace 162 of the 297 street boxes and all 42 public master boxes with solar powered wireless boxes and abandon the hard-wired network (\$2,380,000)
3. Replace all 297 street boxes and all 42 public master boxes with solar powered wireless boxes and abandon the hard-wired network (\$4,100,000)

Both the Public Works and Fire Department recommend the implementation of option (2) at a cost of \$2,380,000 to be funded over a 2 year period.

Estimated Cost: \$2,380,000

Time Schedule: Future Years -- \$2,380,000 Property Tax / Free Cash

28. DAVIS PATH FOOTBRIDGE

Davis Path footbridge is a cement concrete footbridge which spans the MBTA D line at Boylston Playground. The footbridge has only seen cosmetic maintenance work for the last several years. Currently the surface is delaminating and treads have started to separate from the risers. The bridge is clearly in need of a structural evaluation. With the completion of the new hotel on Boylston Street the bridge is sure to see more activity. This funding will be used to do a structural analysis of the bridge which will include a recommendation on future steps.

Estimated Cost: \$40,000

Time Schedule: Prior Year -- \$40,000 Property Tax / Free Cash

WATER/SEWER

29. SINGLETREE HILL TANK IMPROVEMENTS

The Singletree Hill water storage tank provides the water distribution system with storage and operating reserves. Scheduled maintenance requires that the interior and exterior of the tank be reconditioned every 10 to 15 years. The interior was completely renovated in 2008 while the exterior was last completed in 2003. These funds will provide for the complete restoration of the interior surface in FY20.

Estimated Cost: \$490,000

Time Schedule: FY 2020 -- \$490,000 Water & Sewer Enterprise Fund Budget

30. STORMWATER IMPROVEMENTS & PERMIT COMPLIANCE

The EPA's Stormwater Phase II Rule establishes an MS4 stormwater management program that is intended to improve the Town's waterways by reducing the quantity of pollutants that stormwater picks up and carries into storm sewer systems during storm events. This project includes consulting services required for compliance with EPA's Phase II MS4 Permit and installation of structural lining in existing drain crossings along the MBTA C Line and D Line.

Estimated Cost: \$1,200,000

Time Schedule:	Prior Year -- \$300,000	Water & Sewer Enterprise Fund Budget
	FY 2020 -- \$300,000	Water & Sewer Enterprise Fund Budget
	FY 2021 -- \$300,000	Water & Sewer Enterprise Fund Budget
	FY 2022 -- \$300,000	Water & Sewer Enterprise Fund Budget

31. WATER SYSTEM IMPROVEMENTS

Design and construction of proposed water system improvements.

Estimated Cost: \$2,300,000

Time Schedule:	Prior Year -- \$300,000	Water & Sewer Enterprise Fund Bond
	FY 2020 -- \$2,000,000	Water & Sewer Enterprise Fund Bond

32. WATER METER MOBILE TRANSMISSION UNIT (MTU) REPLACEMENT

The Town's water meters and infrastructure were installed in 2006. The batteries of the MTU's (mobile transmission units), which transfer meter consumption to the collectors for billing are nearing the end of their useful life. This program will propose to replace all 10,000+/- MYU's over a four year period.

Estimated Cost: \$1,090,000

Time Schedule:	FY 2019 -- \$265,000	Water & Sewer Enterprise Fund Budget
	FY 2020 -- \$265,000	Water & Sewer Enterprise Fund Budget
	FY 2021 -- \$280,000	Water & Sewer Enterprise Fund Budget
	FY 2022 -- \$280,000	Water & Sewer Enterprise Fund Budget

33. WASTEWATER SYSTEM IMPROVEMENTS

This on-going project provides funding for the rehabilitation of the wastewater collection system (sanitary sewer). Rehabilitation was based on the recommendations of the Wastewater Master Plan completed in 1999. Previously construction projects to correct sewer system deficiencies targeted: 1) structural improvements, 2) sewer and storm drain separation and 3) hydraulic capacity restoration. Moving forward the primary focus will be on the removal of inflow and infiltration sources with the overall goals of eliminating sewerage backups into homes and businesses and lowering MWRA wholesale costs by reducing extraneous flows. Funding for this project should ultimately enhance the efficiency of the wastewater collection system and help to lower MWRA wholesale costs.

Estimated Cost: \$3,000,000

Time Schedule: FY 2019 -- \$3,000,000 Water & Sewer Enterprise Fund Bond

34. 44 NETHERLANDS ROAD - IMPROVEMENTS

Project includes replacement of crushed floor drain system and concrete floor.

Estimated Cost: \$150,000

Time Schedule: FY2019 -- \$150,000 Water & Sewer Enterprise Fund Budget

PARKS/PLAYGROUNDS

35. AMORY TENNIS COURTS, PARKING AND HALLS POND RENOVATION

This item includes the reconstruction of the drainage, subgrade, irrigation and clay tennis courts and associated infrastructure at Amory Park. It also allows for improvement to drainage and reconstruction of the parking lot and entrance to the park, picnic areas and includes rehabilitation of the existing boardwalk structure and pathways at the Halls Pond Conservation Sanctuary. The current board walk structure was installed in 2002 as a component of the overall restoration of the entire Conservation Sanctuary. Heavy use of the area is causing the decking and railings of the boardwalk to degrade, and the frequency of repairs is increasing. This project will remove the existing decking and railings, leave the piers and substructure in place, and install new pressure treated decking and handrails to ensure visitors will have a safe, and accessible, boardwalk system. This project will impact approximately 600 linear feet of boardwalk with a low bump rail, 140 linear feet with full handrails on both sides, and two overlook platforms.

Estimated Cost: \$1,650,000

Time Schedule: FY 2024 -- \$150,000 Property Tax / Free Cash
 Future Years -- \$1,500,000 Property Tax / Free Cash / General Fund Bond

36. BROOKLINE RESERVOIR PARK

Brookline Reservoir Park is a multi-generational community park and water body located along Route 9 between Lee and Warren Streets in the middle of town. Both the reservoir and the gatehouse are listed as a National Landmark. It is a man-made body of water approximately one mile in circumference with a walking/jogging stone dust track that circles the reservoir. The active walking/jogging path also serves as a dam regulated under the Commonwealth of Massachusetts Dam Safety Program. The dam is inspected on a regular basis and in order to be compliant with state regulations and to sustain the structural integrity of the dam must have significant trees and vegetation removed from the berm. The interior basin of the Reservoir is a stone riprap wall and is in need of repointing, regrouting and stabilization. The stone dust path is in need of reconstruction, for both accessibility and safety. In addition to repairing the stone basin, dam/embankment stabilization and invasive aquatic vegetation,

the design review process and restoration project will include consideration of plantings, park furniture, screening from Route 9, comfort station, and pathway/access/entry/overlook points.

Funding for the project is estimated to total \$2.34 million, with \$140,000 in FY17 for design and \$2.2 million in FY18 for construction.

Estimated Cost: \$2,340,000

Time Schedule: Prior Year -- \$2,200,000 General Fund Bond

37. CYPRESS PLAYGROUND & THOMAS P. HENNESSEY ATHLETIC FIELDS

Cypress Playground is a 5.22 acre park located in the heart of Brookline, adjacent to the High School, Tappan Gym and Kirrane Aquatic Center. The park has two softball fields that are shared with a rectangular natural turf field that serve high school sports, adult leagues and year round recreational programming and summer camps. A large seating area and full basketball court are located at the far side of the athletic playing fields. The park has a spray pool, picnic area, play equipment for tots and children and a sledding hill.

This renovation includes new play equipment for 2-5 and 5-12 year-old children, repair of a perimeter retaining wall, new curbing, new water play, pathways, drainage improvements, new basketball court, updated picnic area and seating, plantings, new irrigation, athletic field light improvements/replacement and installation of a full competitive sport level synthetic turf field. The Park and Recreation held three public scoping sessions to discuss the elements of the project and to develop a project budget. The public provided a great deal of input regarding the merits and disadvantages of both synthetic and natural turf. The Commission decided to establish a budget of \$6.65 million, however decided to hold the final decision on the material for the athletic field for the detailed design review process that will commence in 2-3 years. This allows the public and commission time to evaluate the success of the new synthetic turf field at the Devotion School that will have a natural infill material (geofill made with coconut fiber) and the replacement synthetic turf system at Downes Field that will also have an alternative infill system. The Commission felt that it would be beneficial for the community to try these two systems, evaluate new technologies and make the decision regarding the construction specifications for the athletic fields with the latest and most relevant information at the time. \$240,000 in FY2019 will be applied to design services and preparation of the engineering survey. Of the \$6.65 million construction budget, \$2.4 million is part of the Town’s property tax / free cash CIP and \$4.25 million is intended to be included in the High School Expansion and Renovation debt exclusion.

Estimated Cost: \$2,640,000

Time Schedule: FY 2019 -- \$240,000 Property Tax / Free Cash (Design)
 FY 2020 -- \$2,400,000 Property Tax / Free Cash (Construction)

38. FISHER HILL GATEHOUSE SAFETY AND STRUCTURAL IMPROVEMENTS

Built in 1887, the Fisher Hill Reservoir Gatehouse was designed by Arthur H. Vinal, City Architect of Boston from 1884-1887. He is best known for his Richardsonian Romanesque High Service Building at the Chestnut Hill

Reservoir, also built in 1887. The Gatehouse regulated the flow of water in and out of the reservoir basin and is emblematic of the immense civic pride in public waterworks at the turn of the last century.

The Fisher Hill Gatehouse is in need of interior structural and safety improvements. This project provides for a below grade utility room, floor inserts in the open chambers to make the space safe and accessible, lighting, interior window treatment, painting and repointing.

Estimated Cost: \$175,000

Time Schedule: FY 2024 -- \$175,000 Property Tax / Free Cash (Construction)

39. HARRY DOWNES FIELD, PLAYGROUND & SYNTHETIC TURF REPLACEMENT

Harry Downes playground was last renovated in 1993. The playground equipment, picnic area, access and egress points, accessible pathways, park furniture, safety lighting and athletic fields are in need of complete renovation/replacement. At the request of the community this budget item includes a water play/spray amenity for the hot summer months. The athletic fields are used to program lacrosse, soccer, rugby, softball and football, in addition to track and field practice and meets. The natural grass field will be renovated and the synthetic turf surface will be replaced.

The synthetic turf field and track was installed in 2006. The synthetic turf carpet has a warranty of 8 years and an anticipated life cycle of 10-12 years and, depending upon use, may need to be replaced more frequently. In FY19, the field will be 13 years old. The carpet has suffered several tears requiring repair and the field is in need of regrading. The project involves removing the existing carpet and infill material, laser grading the sub base, replacing the synthetic turf, safety pad and installing new infill. The comfort station will be fully rehabilitated to comply with ADA and provide improved storage and maintenance facilities. Funding for construction of the total project is estimated to cost \$2,450,000 in FY19.

Estimated Cost: \$2,450,000

Time Schedule: FY 2019 -- \$2,450,000 General Fund Bond (Construction)

40. HEATH SCHOOL PLAYGROUND & ACCESSIBILITY ACCOMODATION

The Heath School Playground has two play areas; one on the side of the school for younger children (early education program and kindergarten generally ages 2-5) and one at the front of the school for older children (5-12 years old). The play areas are actively and continuously used by the Brookline public school system during the day, extended day program until 6 pm and by the community after school hours, on the weekends, summers and holidays. The tot play area was last renovated in 1996 and is in need of complete replacement, including major grade changes and expansion to make necessary accessibility accommodations. In addition, while a portion of the older children's play area was upgraded in 2005, it is in need of refurbishment, expansion, accessibility improvements and all new safety surfacing.

This request is addressing a current need identified at the school. The request is for \$95,000 for design/construction bid documents and \$1,015,000 for construction.

Estimated Cost: \$1,110,000

Time Schedule: Future Years -- \$1,110,000 Property Tax / Free Cash

41. LARZ ANDERSON PARK

With over 65 acres, Larz Anderson Park is the largest park in Brookline, is listed on the National and State Registers of Historic Places and is the flagship park of the Town with many architecturally significant buildings, structures and fences, athletic fields, play equipment, picnic areas, walking paths, an ice rink, significant trees, a water body, sweeping slopes and magnificent views of the City of Boston.

The FY19 request (\$3.125 million) is for restoration in and around the lagoon area including: stabilization of the banks, dredging excessive organic material that has accumulated in the pond leading to constant algae blooms, repair to the drainage structures, safety repair/replacement of the deteriorating Tempietto, terrace, stairs and fountain, repair of the railings and bridge structures, pathway improvements, invasive removal and new plantings. Funding includes completion of full depth reclamation/reconstruction of the roadway, associated handicapped accessible paths, restoration of the stairs that are in deteriorating condition, parking and safety improvements. Other structural repairs as required.

In addition, the Larz Anderson Ice Rink will be repaired with new supports, headers and piping from the compressor room to the main ice and little children's ice slab. This steel infrastructure has corroded to the point that it is sagging and has caused some of the pipes underneath the ice slab to kink or collapse causing blockages and leading to poor ice conditions.

The FY20 request (\$175,000) is for continuation of much needed pathway and stair improvements and installation of upgraded lighting.

The \$2.2 million budget in FY21 is for the Italianate Garden and the Maintenance Yard. Larz Anderson Park shows many traces of the three major cultural influences on the Anderson's aesthetics and lifestyle: Italy, Japan and England. The Andersons had a vision for their Brookline home that would take them nearly 20 years to realize. They hired the landscape architect and artist Charles A. Platt to design a sunken Italian garden at the top of the hill that would embody their love of Italy. The Italian Garden infrastructure that remains is in poor and unstable condition. The request for improvements is to make structural repairs to the walks, stairs and walls, restore the gazebo on the east side of the garden (to match the restoration of the west side that was completed several years ago), removal of invasive vegetation and replacement with appropriate planting.

Just below the Italian Garden was the Agricultural and Horticultural area for the Anderson Estate. Isabel and Larz had greenhouses, a hen house, a rose garden, garden shed, and maintained extensive agricultural operations to support themselves and their staff. These operations, later to be replaced by the Parks and Open Space Maintenance Garages, were surrounded by significant concrete/stucco walls. The massive walls have shifted significantly and are cracking and deteriorating. The walls and access gate/door are in need of complete

replacement (similar to the replacement of the perimeter wall on Goddard Avenue that was completed several years ago).

Estimated Cost: \$9,000,000

Time Schedule:	FY 2019 -- \$2,700,000	General Fund Bond
	FY 2019 -- \$425,000	Property Tax/Free Cash
	FY 2020 -- \$175,000	Property Tax/Free Cash
	FY 2021 -- \$2,200,000	General Fund Bond
	FY 2024 -- \$2,500,000	General Fund Bond
	Future Years -- \$1,000,000	General Fund Bond

42. MURPHY PLAYGROUND

Murphy Playground, located between Kent, Bowker and Brook Streets, is a bowl shaped park with a noticeable grade change, retaining walls on three sides, play areas and a sloped open grass area. The park was last renovated in 1992 and is in need of renovation, including new play equipment for tots and older children, new perimeter fencing, improved accessibility, restoration of the field, rehabilitation of pathways, new hard court/basketball area, landscape improvements, review of picnic/passive areas, and new water play/spray pool with associated utilities. The design review process will revisit layout, grading, accessibility, safety, and functionality of the park. Construction for the project is estimated to cost \$895,000.

Estimated Cost: \$965,000

Time Schedule:	Prior Year -- \$70,000	Property Tax / Free Cash
	FY 2022 -- \$895,000	General Fund Bond

43. RIVERWAY PARK

This is a continuing project of the Olmsted Park/Riverway Improvements program. This appropriation is for the reconstruction of the riverbanks that have eroded in some places by as much as 10 feet, replacement of failing or hazard trees, edge planting, lawn restoration, rebuilding the path system, and re-grading to prevent future erosion. The project was originally anticipated to be implemented in FY2003; however, with the Brookline/Boston/Commonwealth of Massachusetts/US Army Corps of Engineers joint restoration of the Muddy River, this phase of restoration will be coordinated with the overall flood mitigation, environmental quality, and historic preservation work that is currently being designed and permitted.

Estimated Cost: \$625,000

Time Schedule:	Future Years -- \$625,000	Property Tax / Free Cash
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44. ROBINSON PLAYGROUND

Robinson Playground is a 2.38 acre park located between Cypress, High and Franklin Streets in a dense neighborhood. The playground facilities include a youth baseball/softball field, paved basketball court, multi-use court play area, playground equipment, picnic area, and water play.

The renovation includes new playground equipment for older and younger children; water play, new irrigation and field renovation; basketball and multi-use court improvements; pathway and drainage improvements; and fence replacement. The \$100,000 in FY20 is for design while the \$1.15 million in FY21 is for construction.

Estimated Cost: \$1,250,000

Time Schedule:	FY 2020 -- \$100,000	Property Tax / Free Cash (Design)
	FY 2021 -- \$1,150,000	General Fund Bond (Construction)

45. SCHICK PLAYGROUND

Schick Park, located on Addington Road, is in need of a full site renovation to meet new safety and accessibility requirements. Renovations will include new play equipment for older and younger children, repointing the stone walls, repair of the wooden picnic shelter, field renovation, fencing, paving and site furniture. The estimated project cost is \$90,000 in FY21 for design/construction bid documents and \$970,000 in FY22 for construction.

Estimated Cost: \$1,060,000

Time Schedule:	FY 2021 -- \$90,000	Property Tax / Free Cash (Design)
	FY 2022 -- \$970,000	General Fund Bond

46. BOYLSTON STREET PLAYGROUND

Boylston Street Playground is located on Route 9 in Brookline across from the Old Lincoln School. It has a basketball court, play equipment, water play, picnic and seating areas, and a small athletic field most suitable for youth soccer, softball and baseball practices. In addition to a neighborhood playground, the playground serves as a site for recess and gym classes when the Old Lincoln School is occupied as a temporary school site during school renovation projects. The field is also used by the upper grades for athletic practices as necessary due to its proximity to the high school. The playground, basketball court, water play and athletic field are in need of full replacement/refurbishment along with associated utility upgrades. The renovation will include accessibility improvements into and through the site, fencing replacement, perimeter wall repointing, lighting to support evening use of the basketball court and social seating/gathering places to best serve community and school use.

Estimated Cost: \$1,350,000

Time Schedule:	FY 2022 --\$110,000	Property Tax / Free Cash
	FY 2023 --\$1,240,000	General Fund Bond

47. GRIGGS PARK RENOVATION

Griggs Park is located on a former wetland, in an enclave surrounded by houses and apartment buildings between Washington and Beacon Streets. The pathway is circular, rounding a collection of trees and vegetation, an open

lawn area, seating and picnic areas, basketball and a playground. The playground was renovated in 1997. The project is estimated to cost \$90,000 for survey, design review, development and construction bid documents and \$970,000 for replacement of the play structures and safety surfacing for the 2-5 year olds and the school aged children. The pathway will be resurfaced, drainage improvements made, basketball and multi-generational/adult exercise area improved/added, lawn and plantings improved and furnishings replaced.

Estimated Cost: \$1,060,000

Time Schedule: FY 2024 --\$90,000 Property Tax / Free Cash
 Future Years --\$970,000 Property Tax / Free Cash

48. SOULE ATHLETIC FIELDS & SITE RENOVATION

The Soule Early Education Center is located on Hammond Street. The athletic fields on site serve Town-run daycare programs, multi-age athletic leagues, camps, and residents of all ages and abilities. The circulation and stormwater management of the site are in need of redesign and renovation. Funds will provide for design and construction for increased capacity and improvements to parking areas, pathway connections, storm drainage improvements, picnic areas, and improvement to Robson Athletic Field (Upper Soule). The estimated project cost is \$90,000 for design development and construction oversight with \$1,360,000 in construction costs.

Estimated Cost: \$1,450,000

Time Schedule: Future Years -- \$1,450,000 General Fund Bond

49. SKYLINE PARK SYNTHETIC TURF REPLACEMENT AND PARK IMPROVEMENTS

The synthetic turf carpet at Skyline Field is in need of replacement approximately every 10-12 years and potentially sooner depending upon use. The field was installed and opened to the public in June 2008. The existing carpet and infill will be removed and disposed of, the drainage layer/subbase will be laser graded, new carpet and new infill installed. This project also calls for some improvements to the site furnishings, plantings, pathways, improved connection to Lost Pond Sanctuary, renovate/construct comfort station and storage area and site amenities.

Estimated Cost: \$1,980,000

Time Schedule: Future Years -- \$1,980,000 General Fund Bond

50. PARKS AND PLAYGROUNDS REHABILITATION & UPGRADE

This is an on-going town-wide program for the repair and replacement of unsafe and deteriorating playground, fence, and field facilities or components. Items funded under this program include fences, backstops, retaining walls, picnic furniture, turf restoration, bench replacements, play structures, safety surfacing, and drainage improvements. This program avoids more expensive rehabilitation that would be necessary if these items were left to deteriorate.

Estimated Cost: \$2,500,000

Time Schedule:	Prior Year -- \$305,000	Property Tax / Free Cash
	FY 2019 -- \$305,000	Property Tax / Free Cash
	FY 2020 -- \$310,000	Property Tax / Free Cash
	FY 2021 -- \$310,000	Property Tax / Free Cash
	FY 2022 -- \$315,000	Property Tax / Free Cash
	FY 2023 -- \$315,000	Property Tax / Free Cash
	FY 2024 -- \$320,000	Property Tax / Free Cash
	Future Years -- \$320,000	Property Tax / Free Cash

51. TOWN/SCHOOL GROUNDS REHAB

Town and School grounds require on-going structural improvements and repair. These funds will be applied to create attractive and functional landscapes and hardscape improvements including plant installations, regrading, reseeding, tree work, repair to concrete or asphalt walkways through the site, trash receptacles, bike racks, drainage improvements, retaining walls, and repairs to stairs, treads, railings, benches, or other exterior structures. This funding does not include capital replacement of areas over building structures or directly connected to the buildings, such as entrance stairways and ramps into the building that are under the Building Department's jurisdiction. This program avoids more expensive rehabilitation that would be necessary if these items were left to deteriorate.

Estimated Cost: \$1,340,000

Time Schedule:	Prior Year -- \$150,000	Property Tax / Free Cash
	FY 2019 -- \$155,000	Property Tax / Free Cash
	FY 2020 -- \$160,000	Property Tax / Free Cash
	FY 2021 -- \$165,000	Property Tax / Free Cash
	FY 2022 -- \$170,000	Property Tax / Free Cash
	FY 2023 -- \$175,000	Property Tax / Free Cash
	FY 2024 -- \$180,000	Property Tax / Free Cash
	Future Years -- \$185,000	Property Tax / Free Cash

52. TENNIS COURTS/BASKETBALL COURTS

The Town has over 19 basketball courts and 36 hard-surface tennis courts. Over time, the court surfaces begin to deteriorate, crack, and weather. In order to maintain the integrity, safety, and playability of the courts, the Town needs to plan for the phased reconstruction/renovation/resurfacing of the courts, lighting and drainage improvements.

Estimated Cost: \$300,000

Time Schedule:	FY 2020 -- \$200,000	Property Tax / Free Cash
	Future Years -- \$100,000	Property Tax / Free Cash

53. COMFORT STATIONS

The Larz Anderson Comfort Station and service area are in need of accessibility, structural and ventilation improvements. The facility has public restroom facilities that are in need of structural upgrades, new doors, landings and facilities to better accommodate all ages and abilities. The project includes ventilation and flooring improvements, doors, fixtures and lighting. This project will also upgrade the service doors and area for the maintenance and office areas of the building as well as the facade. The office area will be upgraded to better serve staff and park visitors. Future year funding includes fixture, drainage, ventilation and access improvements to the comfort stations system wide.

Estimated Cost: \$300,000

Time Schedule:	FY 2021 -- \$250,000	Property Tax / Free Cash
	Future Years -- \$50,000	Property Tax / Free Cash

CONSERVATION/OTHER OPEN SPACE

54. TREE REMOVAL AND REPLACEMENT / URBAN FORESTRY MANAGEMENT

The tree removal and replacement program represents the Town's effort to balance street tree removals with plantings. As trees mature or are impacted by storm damage or disease, it is critical to remove these before they become public safety hazards. New tree plantings are also critical, as they directly impact the tree-lined character of the community, improve stormwater quality, provide oxygen, reduce heat impact in the summer, and improve the overall quality of life in Brookline. In addition, funding is included for on-going management work in the four conservation properties (Hall's Pond Sanctuary, Amory Woods Sanctuary, D. Blakely Hoar Sanctuary, and the Lost Pond Sanctuary) and parks. Storm damage, disease, and old age continue to reduce tree canopies. The funds will be utilized to remove hazard trees and provide structural, health, and safety pruning to prolong the life and viability of our significant trees. New trees will be planted in anticipation of the ultimate loss of existing mature trees.

Included in the requested annual amount is funding for Urban Forest Management to address a range of significant improvements needed, such as: tree removals, crown thinning, soil amendments, woodland canopy gap management, invasive removal, pest management, health and structural pruning, and planting throughout the Town's parks and open spaces. This program will help with resiliency to disease, pests and rapid decline attributed with trees unmanaged in an urban environment. The first phase of work will be performed in collaboration with the Olmsted Tree Society of the Emerald Necklace Conservancy who has worked with the Town of Brookline, City of Boston and Commonwealth of Massachusetts on an Urban Forestry Management Plan for the Emerald Necklace. The work outlined in this plan will be supported with public, private and grant funding. The protocol outlined in the plan shall be used to plan for and address urban forestry management priorities throughout Town.

Estimated Cost: \$1,900,000

Time Schedule:	Prior Year -- \$230,000	Property Tax / Free Cash
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FY 2019 -- \$230,000	Property Tax / Free Cash
FY 2020 -- \$235,000	Property Tax / Free Cash
FY 2021 -- \$235,000	Property Tax / Free Cash
FY 2022 -- \$240,000	Property Tax / Free Cash
FY 2023 -- \$240,000	Property Tax / Free Cash
FY 2024 -- \$245,000	Property Tax / Free Cash
Future Years -- \$245,000	Property Tax / Free Cash

55. OLD BURIAL GROUND

The Old Burying Ground, located on Walnut Street, is Brookline's first cemetery. Although the cemetery dates back to 1717, its appearance today reflects the ideals of the 19th century rural cemetery movement. The cemetery is listed as part of the Town Green National Register Historic District. It has been featured in a publication by the Massachusetts Department of Environmental Management (now Department of Conservation and Recreation) entitled "Preservation Guidelines for Historic Burial Grounds and Cemeteries". Research completed by both landscape architects and specialists in monument conservation indicates that the Town has much work to do in restoring the perimeter walls, markers and footstones, tombs, and monuments, as well as landscape improvements.

Estimated Cost: \$250,000

Time Schedule: Future Years -- \$250,000 Property Tax / Free Cash

56. WALNUT HILLS CEMETERY

The Walnut Hills Cemetery was established by the Town in 1875. Designed to preserve the natural features and effects for the landscape, the Cemetery provides visitors with a place of solace, natural beauty and quiet charm. The Walnut Hills Cemetery was listed in the National and State Registers of Historic Places in 1985.

In 2004, the Town completed a master plan for the Cemetery in order to set the parameters necessary to meet town cemetery needs of the future while maintaining the visual, service, quality and other features that make the Cemetery such a valuable historic cultural resource for the Town.

Current plans for the \$770,000 in Future Years, intended for lot expansion, is to use a combination of Town Tax dollars, cemetery perpetual care fund (SW01) and an expendable cemetery trust fund (TW23). A bond authorization with debt service funded from these accounts is also a possibility. Meetings with the Trustees will continue, and they will include discussions regarding potential changes to how revenues received for the sale of lots is currently split.

Estimated Cost: \$770,000

Time Schedule: Future Years -- \$770,000 Other (Cemetery Funds)

RECREATION

57. AQUATICS CENTER POOL FILTER REPLACEMENT

With over 50,000 patrons visiting the Evelyn Kirrane Aquatics Center annually, the facility is one of the most frequented public spaces in Brookline. The facility is now in need of new systems for filtering water for the three pools. The current systems are over 30 years old and have recently been failing, allowing sand back into the pool. A new system would be more energy efficient, filter water more quickly and effectively, saving the department in time, labor, and materials.

Estimated Cost: \$225,000

Time Schedule: FY 2019 -- \$225,000 Property Tax / Free Cash

58. ELIOT RECREATION CENTER IMPROVEMENTS

The Eliot Recreation Center is home to many of Brookline Recreation's Administrative staff and houses many community programs and services. The center is in need of renovations including an updated HVAC system, as well as utility and network infrastructure upgrades. The project includes an additional 1000 sq ft space build out over the current boiler room to accommodate a badly needed conference room as well as upgrades to the perimeter drains around the building. Historically, there have been drainage issues that have impacted the first floor during significant weather events. The project would also include renovation of the public bathrooms on the first floor.

Estimated Cost: \$775,000

Time Schedule: Future Years -- \$775,000 Property Tax / Free Cash

SCHOOL

59. SCHOOL FURNITURE

This is a continuous program to upgrade furniture in all schools, which absorbs significant wear and tear annually. This program will replace the most outdated and worn items.

Estimated Cost: \$1,000,000

Time Schedule:	Prior Year -- \$90,000	Property Tax / Free Cash
	FY 2019 -- \$100,000	Property Tax / Free Cash
	FY 2020 -- \$110,000	Property Tax / Free Cash
	FY 2021 -- \$120,000	Property Tax / Free Cash
	FY 2022 -- \$130,000	Property Tax / Free Cash
	FY 2023 -- \$140,000	Property Tax / Free Cash
	FY 2018 -- \$150,000	Property Tax / Free Cash
	Future Years -- \$160,000	Property Tax / Free Cash

60. HVAC EQUIPMENT

These funds would be used to primarily replace the larger, more expensive parts up to and including the entire unit for air conditioners, HVAC equipment and boilers. A majority of the money would be used for ac compressor replacements. There are presently 199 permanent air conditioning systems in both Town and School buildings. Their sizes range from 2 tons to over 100 tons. The equipment age goes from 1975 up to 2017, with 112 units 10 years or older. Typically, air conditioning compressors last only 5 - 10 years. Depending on the size, costs can range from \$3,500 to \$150,000. Instead of being proactive, there is presently a reactive response when there is a failure, usually in very hot weather. The cost to repair is born out of the operations and maintenance budget (O&M). However, with the large increase in installations of AC equipment over the years, the O&M would not be able to handle a large cost such as this. The plan would be to replace compressors and do upgrades in the off season, based on age and conditions. The same applies for boilers and burners. Typically, a cast iron boiler will last 50-100 years. However, the Town has not been installing these types of boilers, installing efficient condensing boilers instead, which have a much shorter life span - 20-25 years. These monies would replace the boilers before there is a catastrophic failure (in the winter) during the summer months.

Estimated Cost: \$1,250,000

Time Schedule:	FY 2019 -- \$150,000	Property Tax / Free Cash
	FY 2021 -- \$300,000	Property Tax / Free Cash
	FY 2022 -- \$200,000	Property Tax / Free Cash
	FY 2024 -- \$200,000	Property Tax / Free Cash
	Future Years -- \$400,000	Property Tax / Free Cash

61. CLASSROOM CLIMATE CONTROL

Through FY17 to the present, requests have come to the School Director of Operations to add air conditioning and improve climate control in various buildings and for a variety of spaces. Requests have come from parents, staff and PTO members. Some requests stem from a documented medical need the school department must accommodate, and others stem from maintaining an environment that is conducive to teaching and learning. The buildings are designed and built to hold the heat in, and bring in fresh air per code. The heat rises and then gets contained, even with windows being opened. On days were the outside temperature is in the 80s or 90s top floors that also receive direct sunlight in the afternoons can often have room temperatures in excess of the outside temperatures and that distracts teaching and learning. The request for Lawrence, New Lincoln, Heath and possibly BHS identify existing spaces significantly impacted by the heat retention described above. The \$225,000 estimate will not cover all requests to improve building climate and temperature, but will allow the Building Department to begin addressing the most pressing needs.

Estimated Cost: \$225,000

Time Schedule:	FY 2019 -- \$225,000	Property Tax / Free Cash
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62. UNDERGROUND OIL TANK REMOVAL

These funds would be used to remove underground fuel oil tanks, some almost 25 years old. The tanks came with a 30 warranty. There are 26 tanks at various school and town sites. New tanks would be installed inside of the buildings (1000 gallon or less) to replace larger (5000-15000 gallon) tanks. Also small 275 (typically) gallon tanks would be replaced with new tanks of the same size. The boilers are set up for dual fuel. There is no reason to remove and replace the boilers or burners as they function well. By installing a small, above ground tank, inside, we can have the backup function of using oil to heat the buildings in case of an emergency or gas shortage.

Some funding may come from the UST state fund. It is estimated that 50% of the costs would be reimbursed for the tank removals. Typical costs for tank removals would be in the \$50,000 range. If the tank leaks, the costs could be up to 10 times this amount.

Estimated Cost: \$350,000

Time Schedule:	FY 2021 -- \$100,000	Property Tax / Free Cash
	FY 2022 -- \$100,000	Property Tax / Free Cash
	FY 2024 -- \$100,000	Property Tax / Free Cash
	Future Years -- \$50,000	Property Tax / Free Cash

63. TOWN/SCHOOL BUILDING - ADA RENOVATIONS

This annual program of improvements is requested in order to bring Town and School buildings into compliance with the Americans with Disabilities Act (ADA), which requires that the Town make public buildings accessible to all.

Estimated Cost: \$660,000

Time Schedule:	Prior Year -- \$75,000	Property Tax / Free Cash
	FY 2019 -- \$75,000	Property Tax / Free Cash
	FY 2020 -- \$80,000	Property Tax / Free Cash
	FY 2021 -- \$80,000	Property Tax / Free Cash
	FY 2022 -- \$85,000	Property Tax / Free Cash
	FY 2023 -- \$85,000	Property Tax / Free Cash
	FY 2024 -- \$90,000	Property Tax / Free Cash
	Future Years -- \$90,000	Property Tax / Free Cash

64. TOWN/SCHOOL BUILDING - ELEVATOR RENOVATIONS

When a building is renovated, most elevators are upgraded (new controls, motors, cables, refurbishment of the car, etc.). Some elevators are also partially upgraded to meet the requirements of the existing building codes. The buildings that have not been renovated have elevators that are close to 40 years old. Maintenance is an issue and parts are increasingly difficult to find. This project would upgrade those cars and lifts with new equipment.

The New Lincoln Elevator cylinder/piston has shown signs of failure. The situation is being monitored closely. The elevator however, is 24 years old. The controller and peripheral equipment should be modernized and upgraded at this time. An estimated \$200K of the FY2018 appropriation would be used to replace the jack/controls over the summer of 2017.

Estimated Cost: \$1,175,000

Time Schedule:	Prior Year -- \$475,000	Property Tax / Free Cash
	FY 2019 -- \$300,000	Property Tax / Free Cash
	FY 2021 -- \$100,000	Property Tax / Free Cash
	FY 2022 -- \$100,000	Property Tax / Free Cash
	FY 2024 -- \$100,000	Property Tax / Free Cash
	Future Years -- \$100,000	Property Tax / Free Cash

65. TOWN/SCHOOL BUILDING - ENERGY CONSERVATION

It is imperative that monies be invested to decrease energy consumption in Town and School buildings. Programs include, but are not limited to, lighting retrofit and controls, energy efficient motors, insulation, and heating and cooling equipment. In addition, water conservation efforts are explored. This program augments existing gas and electric utility conservation programs. A continued area of focus is building commissioning. Many years ago, a building's HVAC system was set up by multiple contractors and then signed off by the design engineer. Sometimes there would be control issues, leading to complaints or high energy usage. The Building Department, for all new projects, hires a Commissioning Agent. Recommissioning of certain buildings is suggested in order to confirm that the equipment was designed, installed and set up properly.

Estimated Cost: \$1,430,000

Time Schedule:	Prior Year -- \$75,000	Property Tax / Free Cash
	FY 2019 -- \$180,000	Property Tax / Free Cash
	FY 2020 -- \$185,000	Property Tax / Free Cash
	FY 2021 -- \$190,000	Property Tax / Free Cash
	FY 2022 -- \$195,000	Property Tax / Free Cash
	FY 2023 -- \$200,000	Property Tax / Free Cash
	FY 2024 -- \$200,000	Property Tax / Free Cash
	Future Years -- \$205,000	Property Tax / Free Cash

66. TOWN/SCHOOL BUILDING - ENERGY MANAGEMENT SYSTEM

This project is to upgrade the energy management systems in Town and School buildings. A few of the larger buildings have older (30 years) energy management systems that have exceeded their life expectancy and replacement parts are no longer available. These systems would be replaced and upgraded with new web-based systems integrated into the Town's existing computer network. Other systems would be upgraded with newer software or firmware. The Building Department will continue to work with the Information Technology Department on these projects. Software upgrades are needed at the High School, Lawrence, Pierce and Baker Schools in the next few years.

Estimated Cost: \$1,140,000

Time Schedule:	Prior Year -- \$125,000	Property Tax / Free Cash
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FY 2019 -- \$125,000	Property Tax / Free Cash
FY 2020 -- \$125,000	Property Tax / Free Cash
FY 2021 -- \$125,000	Property Tax / Free Cash
FY 2022 -- \$130,000	Property Tax / Free Cash
FY 2023 -- \$130,000	Property Tax / Free Cash
FY 2024 -- \$130,000	Property Tax / Free Cash
Future Years -- \$250,000	Property Tax / Free Cash

67. TOWN/SCHOOL BUILDING - ENVELOPE /FENESTRATION REPAIRS

In FY12, \$250,000 was appropriated for costs associated with repairs to the outside envelope of all Town and School buildings, including a visual inspection of the exterior of all buildings that will help prioritize these repairs. The outside envelope of facilities includes masonry, bricks and mortar, flashing, dental work, coping stones, metal shelves, and tower work. Some of these structures are over 100 years old and have never had exterior work done to them. A number of buildings have windows, door entrances, and other wall openings (fenestration) that are in need of repair/replacement. This causes water to penetrate into buildings behind walls and ceilings, causing security and safety problems. Also included in this program is any required chimney inspection and repairs, if appropriate, or the installation of new metal liners to connect to the gas burning equipment in the building.

A master plan was prepared by a consultant and includes a priority list and schedule and that calls for \$27.45 million over a 30-year period. Facilities addressed within this time frame include the following:

2018	Coolidge Corner Library	2019	Fire Station 7
2020	Baker, Lawrence, Main Library, Public Safety, Soule Rec	2021	No work scheduled
2022	Fire Station 4, Larz Anderson Toilets, Lincoln	2023	Driscoll, Old Lincoln, Heath
2024	Fire Station 1, Health Ctr., Lynch Rec Ctr., Pierce, Town Hall		

Estimated Cost: \$17,050,000

Time Schedule:	FY 2020 -- \$1,500,000	General Fund Bond
	FY 2021 -- \$3,100,000	General Fund Bond
	FY 2022 -- \$750,000	General Fund Bond
	FY 2022 -- \$1,000,000	Property Tax / Free Cash
	Future Years -- \$11,700,000	General Fund Bond+ Property Tax / Free Cash

68. TOWN/SCHOOL BUILDING - ROOF REPAIR/REPLACEMENT PROGRAM

A master plan for repair and replacement of roofs on all Town and School buildings was prepared by a consultant. The plan includes a priority list and schedule and calls for \$29.3 million over a 20-year period. Facilities addressed within this time frame include the following:

2018	Coolidge Corner Library	2019	Fire Station 7
2020	No work scheduled	2021	Golf Course, Heath, Lawrence, Larz Skate Rink, Lincoln,

2022 No work scheduled
 2024 No work scheduled

2023 Driscoll

Pierce Primary

Estimated Cost: \$15,800,000

Time Schedule: FY 2023 -- \$800,000 General Fund Bond
 FY 2024 -- \$800,000 General Fund Bond
 Future Years -- \$14,200,000 General Fund Bond + Property Tax / Free Cash

69. PUBLIC BUILDING FIRE ALARM UPGRADES

The Town engaged with Garcia, Galuska & Desousa to conduct a study to assess the existing fire alarm and fire protection systems. The funding below will allow the Building Department to address the recommendations in the study to properly maintain and upgrade these systems.

Estimated Cost: \$1,650,000

Time Schedule: FY 2019 -- \$250,000 Property Tax / Free Cash
 FY 2021 -- \$150,000 Property Tax / Free Cash
 FY 2022 -- \$300,000 Property Tax / Free Cash
 FY 2023 -- \$300,000 Property Tax / Free Cash
 FY 2024 -- \$300,000 Property Tax / Free Cash
 Future Years -- \$350,000 Property Tax / Free Cash

70. TOWN/SCHOOL BUILDING - SECURITY/LIFE SAFETY SYSTEMS

Over the last number of years, several large capital projects have been undertaken that included security improvements in Town and School buildings. This program will extend the effort and improve areas where security may be lacking. In general, the plan calls for making all doors around the perimeter of a building more secure by replacing the doors, frames, door handles, and locks with electronic locks that may only be opened with a keypad and/or on a specific schedule. Only the front main entrance of the building would allow for general access. At the front door, a speaker and doorbell will be added to connect to the building's existing intercom or phone system for use by visitors. The lighting around each building will be improved and placed on a timer. A small camera system connected to a computer will be added at the main entrance to monitor access to the building.

School buildings will be a priority. Most schools are reasonably secure, but based on an assessment by the Police Department, security can and should be improved. These funds would also be used to continue the on-going process of replacement and installation of new and upgraded burglar alarms, fire alarm systems, sprinkler systems, emergency lighting, and egress signs.

Estimated Cost: \$1,365,000

Time Schedule: Prior Year -- \$215,000 Property Tax / Free Cash

FY 2019 -- \$130,000	Property Tax / Free Cash
FY 2020 -- \$160,000	Property Tax / Free Cash
FY 2021 -- \$160,000	Property Tax / Free Cash
FY 2022 -- \$170,000	Property Tax / Free Cash
FY 2023 -- \$170,000	Property Tax / Free Cash
FY 2024 -- \$180,000	Property Tax / Free Cash
Future Years -- \$180,000	Property Tax / Free Cash

71. TOWN/SCHOOL TRASH COMPACTOR REPLACEMENTS

Trash compactors need to be replaced at the following facilities:

Baldwin Baker Driscoll Heath High School UAB Lawrence New Lincoln Pierce Health

Estimated Cost: \$200,000

Time Schedule:	FY 2019 -- \$100,000	Property Tax / Free Cash
	FY 2023 -- \$50,000	Property Tax / Free Cash
	Future Years -- \$50,000	Property Tax / Free Cash

72. SCHOOL REHAB/UPGRADES

This is an on-going school-wide program for the repair and upgrade of school facilities in between major renovation projects. Items funded under this program include large scale painting programs, new flooring, ceilings, window treatments and toilet upgrades. This program avoids more expensive rehabilitation that would be necessary if these items were left to deteriorate.

Estimated Cost: \$940,000

Time Schedule:	Prior Year -- \$100,000	Property Tax / Free Cash
	FY 2019 -- \$230,000	Property Tax / Free Cash
	FY 2020 -- \$110,000	Property Tax / Free Cash
	FY 2021 -- \$115,000	Property Tax / Free Cash
	FY 2022 -- \$120,000	Property Tax / Free Cash
	FY 2023 -- \$125,000	Property Tax / Free Cash
	FY 2024 -- \$130,000	Property Tax / Free Cash
	Future Years -- \$135,000	Property Tax / Free Cash

73. HIGH SCHOOL ADDITION

Due to Brookline's extraordinary K-12 enrollment increases there now exists a need to expand at the K-8 and 9-12 levels. It is anticipated that both projects will occur during an FY17 - FY20/21 timeframe. BHS enrollment is expected to grow from approximately 2000 student in 2016 students to 2,460 -2,800 students by 2022 -- a growth of more than 400 students in six years. This enrollment level presents a capacity challenge because the High School was renovated to accommodate 2,100 - 2,200 students and enrollment will reach approximately 2,200 by 2017/2018 and approximately 2,460 by 2021/2022. In FY13, \$50,000 was authorized for expenditure from "Classroom Capacity" funding for a concept study to review all possible options for addressing the capacity needs of BHS. Those monies were spent to hire an architect to assist the B-Space Committee with the BHS issue. In addition, \$100,000 was authorized in FY14 for expenditure from "Classroom Capacity" funding to further study options for the expansion of capacity at the High School.

The study, conducted by Symmes, Maini & McKee Associates (SMMA), came on the heels of the recommendations for school expansion contained in the B-Space report to address continued enrollment growth, to align with the Public Schools of Brookline Strategic Plan and Vision, and to preserve Brookline's commitment to excellence and equity. Last Winter/Spring 2016, the Brookline High School Expansion Working Group restarted the work to advance the process to expand and renovate BHS. The working group was made up of BHS teachers, staff, coordinators, district administrators, and school committee members. The working group process led by the Superintendent and Headmaster, took into account, but not limited to, the options presented in the HMFH Architects, Inc. High School Concept Study, the B-Space Committee Report, and the SMMA study. In total, since 2011, there have been three studies, 15 options reviewed, two visioning sessions to understand and contribute to the BHS further study process with District administrators, BHS administrators, BHS teachers, BHS students, BHS parents, School Committee, Select Board, Planning Board, Building Commission, and members of the business community. The charge included beginning a process of analyzing the pedagogical and administrative implications of optimally serving up to 2,500-2,800 high school students in Brookline. The working group produced an updated Brookline High School Education Plan for its use as part of the Feasibility Study phase.

In March, 2016, the School Committee, the Select Board, and the Advisory Committee all voted unanimously to proceed with the process for the 9th Elementary School and Brookline High School renovation and expansion without submitting a Statement of Interest to the Massachusetts School Building Authority to allow for more flexibility in the design processes and the timelines for the projects. In FY17, \$500,000 of the School Studies appropriation (item 75 listed below) was included for the Feasibility phase of the project. An additional \$1.5 million is available in FY18 for schematic design. In FY19, \$35 million of authorization will combined with a Debt Exclusion Override request. The \$35.1 million figure represents the amount that can be afforded within the Town's 6% CIP Financing Policy. The current debt management plan calls for this funding to be accessed during the last phase of borrowing for this project in calendar year 2022. Any change to the timing of this authorization would require significant modifications to the projects contained within this CIP.

HMFH was selected to be the architect for the Feasibility Phase. HMFH will be working with the BHS School Building Committee, the School Committee as the user agency, the Building Department, and numerous town commissions and departments including Parks and Open Space, the Building Commission, the Recreation Department, and the Transportation Board to more deeply analyze the site specific considerations of this site. During the Feasibility Study phase HMFH will create design options for the size, configuration and location of the school on the High School site. There may be a need to analyze additional site locations abutting the high school complex. The outcome of this phase will be the BHS School Building Committee's recommendation of a preferred design concept that will then move the project forward into the Schematic Design phase.

Estimated Cost: \$36,850,000

Time Schedule:	Prior Year -- \$1,850,000	General Fund Bond (Schematic Design)
	FY 2019 -- \$35,000,000	General Fund Bond (Design Completion / Construction)

74. 9th SCHOOL SCHEMATIC DESIGN

In November 2017, the ongoing process to build a 9th elementary school in Brookline restarted the site selection process. On November 14, Town Meeting voted in favor of Special Town Meeting Warrant Article 1 to spend \$300,000 on further site evaluation at Baldwin/Pine Manor, Baker School, Pierce School, and other possible sites identified by the town or offered by landowners. The approved warrant allows for additional expenditures for further feasibility study should a single site or multi-site solution be chosen. The extended site evaluation study will be completed within 90 to 120 days, after which time a feasibility study will commence. \$1.5 million is available in FY19 for schematic design at the chosen site, some of which is re-appropriated from FY2018 9th School CIP item voted last year.

Estimated Cost: \$1,500,000

Time Schedule:	FY 2019 -- \$1,500,000	Property Tax / Free Cash (Schematic Design)
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75. 9th SCHOOL AT BALDWIN

Due to Brookline's extraordinary K-12 enrollment increases there now exists a need to expand at the K-8 and 9-12 levels. It is anticipated that both projects will occur during an FY19 – FY21/22 timeframe. \$1.5 million was appropriated in FY18 for schematic design at the Baldwin site. On November 14, Town Meeting voted in favor of Special Town Meeting Warrant Article 1 which repurposed \$1,000,000 of these funds to restart the site selection process. It is anticipated that the \$500K balance will be used to support the new Schematic Design appropriation described above.

Estimated Cost: \$1,500,000

Time Schedule:	Prior Year -- \$1,500,000	Property Tax / Free Cash (Schematic Design)
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76. DRISCOLL SCHOOL REHABILITATION

The Driscoll School is in need of a new HVAC system with temperature controls.

The building presently uses steam to heat the building. The steam HVAC system dates back to 1910 in the main section, 1928 and 1953 with the additions.

It is extremely difficult to find parts to maintain the systems. The system as it is now is hard to maintain, sometimes overheats or under heats parts of the building and there is a concern of proper ventilation and cooling air. The boilers were replaced in 1995. They are fully functional and operate well. The plan would be to convert them from a steam to a forced hot water system. This would allow better heating control plus save energy.

A new HVAC system (equipment, piping, ductwork and controls) would be installed to replace the existing equipment. The work would be done over two years (primarily in the summer months). Phasing would allow the building to remain occupied.

Estimated Cost: \$4,400,000

Time Schedule:	Prior Year -- \$400,000	Property Tax / Free Cash
	FY 2019 -- \$4,000,000	General Fund Bond

77. CLASSROOM CAPACITY

The Public Schools of Brookline PreK-12 student population has grown by 29% since FY 2006 from 6,014 students to 7,777 in FY 2017. In FY17 (October 1), there are now 5,445 PreK-8 students compared with less than 4,095 in FY05, an increase of 33%.

While the increase in size of Brookline's kindergarten enrollment has driven the majority of the growth, these larger elementary grades have moved up, consistent with the district's decades-long pattern of near 100% cohort retention. They have already started arriving at the high school which has grown by 200 students since FY14 (1,802) to FY17 (2,001). Brookline High School has grown 4.1% in the last ten years, with a five-year growth of 12.7%. In the past five years, student enrollment at the high school has increased from 1,726 students to 2,001. The maximum capacity of the existing high school is between 2,000 and 2,200 without expansion. Our current 1st through 4th Grades total 2,621 students and that cohort will be attending Brookline High School in grades 9-12 during the 2024-2025 school year. Our current 8th grade enrollment of 531 students is the lowest enrollment of the current K-8 grades, and will be replacing a 2017 graduating class of 481 students.

In order to create the classroom space necessary to accommodate this PreK-8 enrollment increase, a long series of well-planned larger-scale renovation projects and smaller-scale space conversion projects have been completed over the past decade. A total of 55 PreK-8 Classrooms were added through the use of an "Expand-in-Place" strategy since 2008 including but not limited to:

- 6 classrooms built at Heath;
- 4 classrooms built at Lawrence;
- 2 modular classrooms added at Baker;
- 11 BEEP classes moved out of K-8 buildings into leased commercial space;
- 4 classrooms in leased commercial space for Pierce;
- Gym and Fitness Room Rental for Pierce;
- 1 brand new school will be built at Devotion to add 12 classrooms; and
- Expanded use of the buffer zones to maintain class size at desired levels.
- FY18 we will bring online 4 classroom conversions from existing spaces. These are likely the last K-8 classroom spaces available in the district for conversion and reclaiming

- Driscoll added a fourth section of Grade 3.
- Lawrence added a fourth section of Grade 6.
- Pierce added a fifth section of Grade 4.
- Devotion added a fifth section of Grade 6.

The work of adapting the High School to accommodate the growing enrollment is underway with building or reclaiming a total of 9 classrooms. To accomplish this, more than fifty staff members from Brookline Early Education Program (BEEP), Office of Student Affairs, METCO, ELL, Operations (Custodians, Transportation, & Food Service), Brookline Adult and Community Education (BACE), Office of Strategy and Performance, and Steps to Success Inc., were all moved in FY16 to 24 Webster Place (leased). In FY 17, the Help Desk was moved to the Health Building to join the Town IT Department. Educational Technology moved to the Sperber Center at Pierce Elementary in FY17. The movement of these departments from the High School, Pierce (Sperber Center), and Town Hall Annex/leased space has allowed the district to reclaim classroom and small group instructional spaces at the high school to be used by new teachers and support staff needed due to increased enrollment.

The Classroom Capacity item in FY2018 covers the leases at the temples, 62 Harvard, 24 Webster Place and the Baker modules with very limited funding to modify smaller spaces in existing buildings. The FY2019 – 2023 budgets assume continuation of those lease arrangements.

Estimated Cost: \$8,075,000

Time Schedule:	Prior Year -- \$995,000	Property Tax / Free Cash
	FY 2019 -- \$1,165,000	Property Tax / Free Cash
	FY 2020 -- \$1,223,000	Property Tax / Free Cash
	FY 2021 -- \$1,032,000	Property Tax / Free Cash
	FY 2022 -- \$915,000	Property Tax / Free Cash
	FY 2023 -- \$915,000	Property Tax / Free Cash
	FY 2024 -- \$915,000	Property Tax / Free Cash
	Future Years -- \$915,000	Property Tax / Free Cash