

Town of Needham  
Capital Improvement Plan  
January 2013

**EXECUTIVE SUMMARY**

**The Recommended Capital Plan**

The Town Charter requires that the Town Manager, after consultation with the Board of Selectmen, submit in writing to the Board of Selectmen a careful, detailed estimate of the recommended capital expenditures showing specifically the amount necessary to be provided for each office, department and activity and a statement of the amounts required to meet the debt service requirements or other indebtedness of the Town. This plan includes the proposed FY2014 Capital Budget, which is recommended to the Finance Committee and ultimately Town Meeting for consideration. The projects presented for FY2015-FY2018 reflect an assessment by municipal departments and the School Committee of future capital needs and are primarily shown for planning purposes. While many of these projects may ultimately be recommended for funding, the plan is a fluid one, and projects may be added and deleted from the list as circumstances change. The proposed financing plan for the recommended FY2014 capital budget is shown in Table 1.

The general fund cash capital recommendation is broken into two components – Tier 1 and Tier 2. Tier 2 cash capital is recommended only if additional revenue, not yet identified, becomes available. Recurring requests for on-going programs and replacement schedules represent by far the largest portion of the available cash capital allocation – 79% of the Tier 1 category for fiscal year 2014. In collaboration with the Finance Committee, we continue to explore methods of increasing the amount of available resources dedicated to cash capital needs.

**Table 1  
FY2014 Proposed Financing Plan**

| <b>2014 Capital Recommendation Summary</b> | <b>Cash</b> | <b>Debt</b> | <b>Other</b> | <b>Total</b> |
|--|-------------|-------------|--------------|--------------|
| General Fund Tier 1                        | 1,838,672   | 1,612,277   | 500,000      | 3,950,949    |
| General Fund Tier 2                        | 902,993     | 0           | 0            | 902,993      |
| Community Preservation Fund                | 353,000     | 0           | 0            | 353,000      |
| Solid Waste Enterprise                     | 218,100     | 320,400     | 0            | 538,500      |
| Sewer Enterprise                           | 797,900     | 0           | 0            | 797,900      |
| Water Enterprise                           | 2,013,100   | 5,565,100   | 0            | 7,578,200    |
| Total (all funds)                          | 6,123,765   | 7,497,777   | 500,000      | 14,121,542   |

## **Capital Planning 101**

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### **Capital Improvement Plan**

The Capital Improvement Plan (CIP) is a multi-year tool used to coordinate the financing and timing of major public improvements for the Town of Needham. It contains a list of capital projects proposed for the Town within the next five years and reflects the recommendations of citizens, boards, commissions, and staff from each of the Town departments. The CIP identifies each proposed project and presents a summary description, estimate of cost, method of financing, and a schedule of implementation. Capital planning helps ensure that the community is positioned to:

- preserve and improve its basic infrastructure through construction, rehabilitation and maintenance;
- maximize the useful life of capital investments by scheduling major renovation, rehabilitation, or replacement at the appropriate time in the life-cycle of the facility or equipment;
- identify and examine current and future infrastructure needs and establish priorities among projects so that available resources are used to the community's best advantage; and
- improve financial planning by balancing needs and resources and identifying potential fiscal implications.

### **Operating Budget and Capital Budget**

The Town's capital budget and operating budget are developed separately but are closely linked. The annual operating budget provides for general municipal service delivery, including personnel service costs, supplies and other contractual services, and certain capital equipment. Most appropriations in the annual operating budget are for a single fiscal year. In contrast, the capital budget is a multi-year budget designed to expend monies which add to the physical assets of the Town. Capital projects typically require expenditures which take place beyond a single fiscal year; funding with debt because of significant costs to be shared by current and future beneficiaries; systematic acquisition over an extended period of time in order to implement major operating systems or programs; and scheduled replacement or maintenance of specific elements of physical assets.

Notwithstanding the differences between the two, the operating and capital budgets are closely interwoven inasmuch as operating costs related to capital projects are estimated and incorporated into the operating budget. Many capital projects such as the new Senior Center will have an impact on the operating costs of those facilities once opened. Town practice is to project the net effect a capital project will have on the operating budget. While maintenance and repair costs may be lower in a new facility, it is often more costly to operate a larger and more modern facility. In addition, since many capital projects are financed through municipal debt, repayment of that debt becomes part of the operating budget and is incorporated into the Town's forecasting models. The necessity to incur some degree of debt in order to finance the CIP carries with it the burden to effectively manage that debt within the Town's financial resources.

### **Financial Benefits of Capital Planning**

Needham's capital planning initiatives have contributed to the successful achievement and maintenance of its AAA bond rating from Standard and Poor's. This bond rating places Needham in the top tier of communities and allows the Town to borrow at a

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lower interest rate. Investors and bond rating agencies stress the value of a CIP for a municipality seeking to borrow funds. The absence of a rational, long-term planning instrument would weigh against the bond rating assigned to Needham by rating agencies and the result would be higher interest rates on bond issues and the diversion of tax dollars to pay for the interest on loans. Another financial benefit of the capital planning process is the avoidance of poorly timed projects. Good planning can ensure that capital improvement efforts are coordinated and costly duplication is avoided. In addition, significant savings can accrue to taxpayers when major capital financing is coordinated so that bond issues are sold infrequently, and at times during the economic cycle when the Town can take advantage of low interest rates.

**Development of the CIP**

The process for preparing the FY2014-2018 Capital Improvement Program and its associated FY2014 Capital Budget involves active participation by the Town Manager, Assistant Town Managers, and requesting departments. The Capital Budget is prepared in the context of a five-year determination of need by Departments and the School Committee, in conjunction with the Town's overall financial capacity to affordably accommodate the required debt service payments. Projected debt service payments and budgetary impacts are forecast annually to help ensure affordability and sustainability of the Capital Improvement Program. The Town's Capital Improvement Policies provide guidance for assessing the capital needs of the Town. These policies, included in Section 12, define capital projects as those items requiring the expenditure of at least \$25,000 and having a useful life of more than five years. Recommended capital project requests are prioritized using the following criteria:

- the project is required to comply with State and/or Federal handicapped accessibility standards;
- the project is necessary to protect the health and safety of people; and
- the project is necessary to maintain an existing capital facility, or operation of equipment used in providing town services.

In addition to the criteria listed above, the Town has a long practice of funding the systematic replacement of obsolete or worn-out equipment, and those items requested for the improvement of operating efficiency and the equitable provision of services.

The development of the CIP occurs over the following approximate timeframe:

- *Late Summer*—Following Town Meeting, departments are provided with their previously submitted five year requests for review, update and the addition of the next fifth year. While requests for each year should remain the same as in the initial request, there are occasionally changed circumstances which necessitate alterations to the requests. This information is returned to the Town Manager and staff for review. Also in the summer, the Assistant Town Manager/Finance Director develops and presents a pro forma budget for the ensuing five year period. The pro forma budget is the basis for the determination of the amount of revenue available to support the CIP.
- *Autumn* —The Town Manager and staff meet with each department to gain a better understanding of each request. Finance Committee Liaisons are invited to participate in these meetings.

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- *Late Autumn/Early Winter* — The Assistant Town Manager/Finance updates the preliminary debt schedules and financial forecasts in order to provide context to the Capital Budget as well as the five-year Capital Improvement Plan, and the Town Manager presents the Board of Selectmen with a proposed five-year Plan.
- *January* – The Town Manager transmits the Capital Improvement Plan, along with any recommendations made by the Board of Selectmen, to the Finance Committee by the first Tuesday after the first Monday in January.
- *January/February* – The Finance Committee reviews each project in the capital budget and makes recommendations for inclusion in the Town Meeting Warrant.
- *May* – The capital budget is presented to Town Meeting for approval.

### **Financing of Capital Projects**

The number of capital projects to be funded must be considered in the context of the total operating budget, capital budget needs, and revenue growth. Capital improvement projects are funded through current receipts, reserves, and/or other funds such as grants.

*Current Receipts* – Current receipts include property tax revenue, local receipts (such as fees and charges), and State aid. This plan includes no projects to be funded from current receipts.

*Free Cash* – Free Cash is a function of actual revenue collections in excess of estimates and expenditures less than appropriations. Because Free Cash cannot be relied upon as a recurring revenue source, the Town's practice is not to rely upon it as an operating revenue source. In this plan, we have continued the effort to minimize the Town's reliance on free cash to support on-going operations by limiting such use to no more than 2% of the prior year's appropriated departmental budgets, or the actual turn back, whichever is lower. As such, the plan includes as much as \$2,741,665 to be funded from General Fund revenue (of which \$1,838,672 is in the Tier 1 cash capital category).

*Capital Improvement Fund* – In 2004, the Town created a General Fund Cash Capital Equipment and Facility Improvement Fund (CIF). The purpose of the CIF is to allow the Town to reserve funds to use for general fund cash capital. The CIF may be used in future years to fund the acquisition of new equipment, the replacement of existing equipment, and building and facility improvements which cost less than \$250,000, for which the Town may borrow for a period of five years or more. Projects must be included in the CIP in order to be eligible for funding through the CIF. The November 30, 2012 balance in the fund is \$648,222. This plan includes no projects to be funded from the Capital Improvement Fund.

*Capital Facility Stabilization Fund* – In 2007, the Town created a Capital Facility Fund to allow the Town to reserve funds for design, maintenance, renovation or reconstruction relating to the structural integrity, building envelope or MEP (mechanical, electrical, plumbing) systems of then existing capital facilities. For this purpose, capital facility refers to any building or

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structure which is located on Town property and is under the jurisdiction of the Town Manager, including any Town-owned building, structure, room, or space within a building, facility, park or plaza, open space, driveway, landscaped area, or other physical improvements under the administrative control of the Town. The November 30, 2012 balance in the fund is \$1,291,951. This plan includes no projects to be funded from the Capital Facility Stabilization Fund.

*Athletic Facility Improvement Fund* – In 2012, the Town created an Athletic Facility Improvement Fund to reserve funds for the design, maintenance, renovation, reconstruction, or construction of athletic facilities. For the purpose of the fund, athletic facilities include any Town-owned building, structure, pool, synthetic turf and natural grass turf playing field or ball diamond, and associated grounds and parking areas whose primary purpose is for organized athletic events for Needham children, adults, and school teams. The November 30, 2012 balance in the fund is \$282,987. This plan includes no projects to be funded from the Athletic Facility Improvement Fund.

*Retained Earnings* – Three of the Town’s operations – water, sewer, and solid waste – are accounted for as enterprise funds. The revenues and expenditures of these operations are not commingled with those generated by general fund operations. Generally, each enterprise will generate surplus funds on an annual basis. The Board of Selectmen’s retained earnings policies are included in Section 12. The policies contain reserve targets to ensure liquidity and stability of operations. Surplus funds above the target are considered available for appropriation. This plan includes \$3,029,100 in funding from the enterprise fund retained earnings accounts.

*Debt* – The Board of Selectmen’s debt management policies (Section 12) provide guidance in translating capital expenditures into annual debt service. Section 4 of this plan contains a graphic presentation of the Town’s current debt service and a calculation of the Town’s debt burden (annual debt service as a percent of total Town revenues). The figures used in calculating the debt burden are derived from the Town’s long-term debt service schedule that is also included in Section 4. This plan includes a recommendation for \$1,612,277 in projects to be funded through General Fund debt, and \$5,885,500 in projects to be funded through enterprise fund debt.

*Community Preservation Fund* – The Community Preservation Act (CPA) allows cities and towns to raise monies through a surcharge on the tax levy. These funds may then be used to acquire, create and preserve open space, acquire and preserve historic resources, create, preserve and support community housing, and acquire, create and preserve land for recreational use. The CPA also provides for matching funds from the Commonwealth. The CPA was approved at the May, 2004 Annual Town Meeting and by voters at the November 2, 2004 election. The CPA requires that each fiscal year Needham must spend, or set aside for later spending, at least 10% of the annual revenues in the Town of Needham Community Preservation Fund for each of three CPA target areas: open space (but not including land for recreational use), historic resources, and community housing. The remaining 70% may be appropriated at the Town’s discretion as long as it is used for the three target areas or recreation. The statute also permits the Town to appropriate up to 5% of the annual revenue estimate for the administrative expenses of the Community Preservation Committee (CPC). Projects submitted for inclusion in the CIP that qualify for CPA funding are

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forwarded to the CPC for its consideration. This plan includes a recommendation for \$353,000 in projects to be funded contingent upon Community Preservation Funding.

**The CIP Is a Flexible Planning Tool**

While much of the Town's budget and financial planning efforts are by necessity focused on one or at most two year intervals, capital planning helps to focus attention on the Town's long-term objectives and financial capacity, and the balance between operating and capital needs. The Town is often faced with the option of reducing its capital plan in order to balance the operating budget. Having a formal and accepted plan helps to maintain a consistent level of spending for capital needs, barring extraordinary circumstances. Individual projects are evaluated against long-term objectives and in relationship to each other. By strategically programming capital projects, the Town can maintain a tolerable level of debt service, and prevent unexpected changes in debt service payments.

**Prioritizing Investment in Real Property, Facilities and Infrastructure**

Asset preservation is defined as committing necessary resources to preserve, repair, or adaptively re-use current assets. Expenditures for asset preservation are intended to keep the physical plant and infrastructure in reliable operating condition for their present use. As noted in previous years, despite the most recent economic downturn and decades of financial uncertainty for municipal governments, the Town of Needham has made an extraordinary investment in public infrastructure during the past decade. While significant investment in many capital facilities is still required and, in some cases, overdue, the Town should be proud of this achievement. The Town's success in this area is a direct result of continued and sustained focus on asset evaluation, needs assessment, careful planning, and prioritization. Such prioritization of spending on infrastructure that is often "invisible" is the hallmark of a community that has refrained from diverting funding from the capital budget to fund operating budget programs and services that are needed and desired. Table 2 shows the Town's investment in facilities and infrastructure over the past five years.

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Table 2  
Facility and Infrastructure Investment  
2009 to 2013

| Description                                | 2009              | 2010              | 2011             | 2012              | 2013             | Total              | Five Year Average |
|--|-------------------|-------------------|------------------|-------------------|------------------|--------------------|-------------------|
| Open Space                                 |                   | 920,000           | 800,000          |                   |                  | 1,720,000          | 344,              |
| Municipal Facilities                       | 7,760,000         | 18,204,837        | 548,000          | 8,075,000         | 40,000           | 34,627,837         | 6,925,            |
| Townwide Facilities and Community Services | 1,870,000         | 507,200           | 455,600          | 622,500           | 1,247,315        | 4,702,615          | 940,              |
| Public Works Infrastructure Program        | 1,090,000         | 1,000,000         | 2,186,300        | 1,300,000         | 6,128,000        | 11,704,300         | 2,340,            |
| School Facilities                          | 1,030,000         | 27,668,728        | 4,052,000        | 1,078,000         | 85,000           | 33,913,728         | 6,782,            |
| Drains, Sewer, and Water Infrastructure    | 4,322,500         | 2,533,300         | 1,483,800        | 8,269,500         | 879,300          | 17,488,400         | 3,497,            |
| <b>Total</b>                               | <b>16,072,500</b> | <b>50,834,065</b> | <b>9,525,700</b> | <b>19,345,000</b> | <b>8,379,615</b> | <b>104,156,880</b> | <b>20,831,</b>    |

The need for this level of investment in facilities and infrastructure is generally attributable to three factors. First, the Town is now 300 years old, so its infrastructure, much of which was first installed in the early part of the 20<sup>th</sup> century, is aging. Second, as a built-up community, the Town has a high number of streets and sidewalks to maintain. There are 138 +/- miles of roadway in Needham, which is a community of approximately 12.5 square miles. Similarly-sized communities that are less-developed will require less investment in capital and maintenance (including snow and ice removal).

Finally, the Town's population grew significantly in the years after the Second World War, from 12,445 in 1940 to 16,262 in 1950 to 25,793 in 1960, according to Town census records. As a result, investment in school buildings increased significantly in the 1950's and 1960's. In fact, with the exception of the High School, all of the school buildings currently in use were built in the same 10 year period from 1951 to 1960. Then, after the advent of Proposition 2 ½ in 1982, the community found it difficult to make necessary investment in its array of school facilities. This resulted in a need for complete replacement or rehabilitation of the entire system beginning in the mid-1990's and continuing today. Table 3 shows the date of construction and most recent renovation or rebuilding (if any) of the School and Municipal buildings currently in use in Needham.

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**Table 3  
Construction of School and Municipal Buildings  
Currently in Use in the Town of Needham**

| School Buildings                      | Year Constructed | Major Renovation Rebuild | Municipal Buildings                     | Year Constructed | Year Renovated or Rebuilt |
|---------------------------------------|------------------|--------------------------|---|------------------|---------------------------|
| Broadmeadow Elementary School         | 1951             | 2002                     | Town Hall                               | 1902             | 2011                      |
| Eliot Elementary School               | 1955             | 2004                     | Public Library                          | 1915             | 2006                      |
| High Rock School - Sixth Grade Center | 1955             | 2009                     | Public Works/470 Dedham Avenue          | 1961             | 1966                      |
| Hillside Elementary School            | 1960             | 1968                     | Public Services Administration Building | 2009             |                           |
| Mitchell Elementary School            | 1951             | 1968                     | Police/Fire Station 1                   | 1931             | 1989                      |
| Newman Elementary School              | 1960             | 2012                     | Fire Station 2                          | 1906             |                           |
| Pollard Middle School                 | 1957             | 1992                     |   |                  |                           |
| Needham High School                   | 1930             | 2008                     |   |                  |                           |
| Emery Grover School Administration    | 1898             |                          |   |                  |                           |

The position of the Town with respect to its equipment and technology capital investment is also encouraging. Major categories of this capital spending include Public Safety, Public Works, and Public Facilities vehicles and equipment, School and Townwide technology, and School copiers, furniture and musical equipment. Table 4 shows the Town's investment in these categories of capital spending for the five year period FY2009 through FY2013.



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Table 4  
Vehicles, Equipment and Technology Capital  
2009 to 2013

| Description               | 2009             | 2010             | 2011             | 2012             | 2013             | Total             | Five Year Average |
|---------------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|
| <b>Equipment</b>          | <b>448,061</b>   | <b>1,083,681</b> | <b>1,364,903</b> | <b>729,763</b>   | <b>832,400</b>   | <b>4,458,808</b>  | <b>891,762</b>    |
| All Other Functions       | 43,500           | 25,000           | 68,000           |                  |                  | 136,500           | 27,300            |
| Public Facilities & Works | 352,511          | 977,000          | 1,189,253        | 610,063          | 637,200          | 3,766,027         | 753,205           |
| Public Safety             |                  |                  |                  |                  | 40,000           | 40,000            | 8,000             |
| Public School             | 52,050           | 81,681           | 107,650          | 119,700          | 155,200          | 516,281           | 103,256           |
| <b>Technology</b>         | <b>443,520</b>   | <b>194,393</b>   | <b>389,400</b>   | <b>306,596</b>   | <b>832,800</b>   | <b>2,166,709</b>  | <b>433,342</b>    |
| All Other Functions       | 85,280           | 25,000           | 282,800          | 145,000          | 160,000          | 698,080           | 139,616           |
| Public Facilities & Works |                  |                  |                  |                  |                  |                   |                   |
| Public Safety             | 100,000          |                  | 68,000           | 112,496          |                  | 280,496           | 56,099            |
| Public School             | 258,240          | 169,393          | 38,600           | 49,100           | 672,800          | 1,188,133         | 237,627           |
| <b>Vehicles</b>           | <b>724,393</b>   | <b>516,233</b>   | <b>596,446</b>   | <b>1,067,500</b> | <b>1,278,418</b> | <b>4,182,990</b>  | <b>836,598</b>    |
| All Other Functions       | 14,000           |                  |                  | 52,000           |                  | 66,000            | 13,200            |
| Public Facilities         |                  |                  | 65,046           | 25,000           | 50,318           | 140,364           | 28,073            |
| Public Safety             | 205,000          | 35,000           | 30,000           | 400,000          | 785,000          | 1,455,000         | 291,000           |
| Public Works              | 505,393          | 481,233          | 501,400          | 590,500          | 443,100          | 2,521,626         | 504,325           |
| <b>Total</b>              | <b>1,615,974</b> | <b>1,794,307</b> | <b>2,350,749</b> | <b>2,103,859</b> | <b>2,943,618</b> | <b>10,808,507</b> | <b>2,161,701</b>  |

## Project Summaries – Recommended Projects

### **GENERAL GOVERNMENT**

#### **ELECTION EQUIPMENT (Request: \$85,000)**

The purpose of replacing the Accuvote Electronic Voting System is to update and replace the Town's current voting system purchased in 1994. These machines and the black plastic ballot boxes that hold the machines are currently 19 years old and are beginning to require more and more frequent repairs. There are currently 11 Accuvote machines – one for each of the ten

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precincts plus one spare machine. Both the read heads and scanner cannot be upgraded due to the age of the equipment. The new Accuvote Voting Machines will have more features. The ballot boxes will be smaller making storage more convenient and accessibility at the polls will be easier. Absentee voters will no longer require special marking pens in order to vote thus making voting easier. Within the next few years, all the machines will be handicapped accessible. The new DS200 Voting Machine is the next generation Optical Scan voting equipment. This voting machine will have a paper ballot and the memory cards have been replaced with memory sticks. Approval of new equipment by the Elections Division of the Secretary of the Commonwealth is required, and has not yet been granted. *(Submitted by: Office of the Town Clerk)*

The Town Manager's recommendation for Election Equipment is \$85,000 in the Tier 1 cash capital category.

**NETWORK HARDWARE SERVERS AND SWITCHES (Request: \$30,000)**

The fiscal year 2014 funding request for network servers and switches will support the replacement of older servers, spam filter, virus firewall, and internet filtering, and also the replacement of older network switches to connect buildings, departments, and workstations throughout the Town. Newer models of both servers and switches are better able to take advantage of the Town's fiber and will increase the speed of data within the Town's fiber network. Older servers, both application and data, will be replaced with newer, faster, and more energy efficient servers and attached storage configured for virtualization of hardware and software. Not replacing or updating this equipment can affect Town wide access to email, financial applications, Internet, and data. *(Submitted by: Finance Department)*

The Town Manager's recommendation for Network Hardware Services and Switches is \$30,000 in the Tier 1 cash capital category.

**PUBLIC SAFETY**

**FIRE DEPARTMENT CORE FLEET (Request: \$49,200)**

The Core fleet consists of passenger vehicles such as sedans and wagons, vans, pick-up trucks, small dump trucks, and utility trucks. This request is to replace a 2004 Ford pick-up truck with a utility body. The truck functions primarily as a brush fire truck, but has many other uses. In the winter months, the modular brush unit and water tank is removed, and the truck is used to transport materials and emergency equipment. This vehicle is also used to tow fire department rescue boats, the hazardous materials trailer, the firefighting foam trailer, the mass decontamination trailer, and the Health Department Emergency Dispensing Trailer. Presently, this truck has over 29,000 miles of service on it, and at the time of replacement mileage is estimated to be approximately 35,000. *(Submitted by: Fire Department)*

| Unit | Division | Year | Description - Existing    | Description - Request | Miles  | Cost     |
|------|----------|------|---------------------------|-----------------------|--------|----------|
| C-6  | Fire     | 2004 | Pick-up with Utility Body | Same                  | 27,531 | \$49,200 |

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The Town Manager’s recommendation for the Fire Department Core Fleet is \$49,200 in the Tier 1 cash capital category.

**HEART MONITOR/DEFIBRILLATOR (Request: \$27,500)**

This request is to replace a 12 Lead Cardiac Heart Monitor/Defibrillator with a new 15 Lead Cardiac Heart Monitor/Defibrillator. The older of the two current units is 8 years old, and due to advancements in technology it will become obsolete in 2013. It is anticipated that replacement parts will no longer be available. The Department’s second unit is approximately four (4) years old, and is scheduled for similar replacement in FY2016. These monitors/defibrillators are required by the State Office of Emergency Medical Services (OEMS), as a licensing component of the Town’s Advanced Life Support (ALS) ambulance, and are essential to the provision of emergency services. *(Submitted by: Fire Department)*

The Town Manager’s recommendation for the Heart Monitor/Defibrillator is \$27,500 in the Tier 1 cash capital category.

**BUILDING DEPARTMENT CORE FLEET (Request: \$45,042)**

The Core fleet consists of passenger vehicles such as sedans and wagons, vans, pick-up trucks, small dump trucks, and utility trucks. The FY2013 – 2017 Capital Plan included a recommendation for the replacement of Unit #456, a 2002 Ford Taurus Sedan, with a Ford Hybrid Escape. Since that time, the Department has experienced a reduction in the availability of Unit#454 due to the number of repairs. As a result, the Building Commissioner has evaluated the previous request, and proposes the elimination of the request for a Ford Escape, and the replacement of two Ford Taurus vehicles (units 456 and 454) with Ford Fusion vehicles. The MPG for the Fusion is a combined 28 MPG. *(Submitted by: Building Department)*

| Unit | Division | Year | Description – Existing | Description - Request | Miles  | Cost     |
|------|----------|------|------------------------|-----------------------|--------|----------|
| 456  | Building | 2002 | Ford Taurus            | Ford Fusion           | 68,707 | \$22,521 |
| 454  | Building | 2005 | Ford Taurus            | Ford Fusion           | 48,714 | \$22,521 |

The Town Manager’s recommendation for the Building Department Core Fleet is \$45,042 in the Tier 1 cash capital category.

**WIRELESS MUNICIPAL RADIO MASTER FIRE BOX SYSTEM (\$164,000)**

The long-term plan is to eliminate the older style fire alarm master boxes and install wireless radio master box systems where needed. All pole mounted fire alarm boxes (222) would be permanently removed. Building master boxes (129) would be replaced with radio box transmitters. The 129 master boxes are privately owned, and property owners pay the Town an annual monitoring fee of \$480. Privately owned buildings would not be required to change over to the new municipal system if they chose to use their own private alarm company. Of the \$164,000 requested for this project, \$52,000 would be for the head-end equipment to be located within the fire dispatch center. An additional \$112,000 would be to purchase radio boxes

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for 28 Town buildings at approximately \$4,000 each. This cost would be for the box and installation at each Town building. With this new system, the fire dispatch center will be capable of monitoring alarms, troubles, security/intrusion, and any other alarm or status that uses a contact closure. Wireless systems are more reliable in storm conditions when often times overhead lines are out of service. Once the wireless system is complete, the Fire Department will evaluate the continued need for staffing and equipment in the Fire Alarm Division. *(Submitted by: Fire Department)*

The Town Manager's recommendation for the Wireless Municipal Radio Master Fire Box System is \$164,000 in the Tier 2 cash capital category.

**POLICE STATION UNDERGROUND STORAGE TANK REMOVAL (Request: \$28,500)**

This funding will enable the Department of Public Facilities to remove the underground fuel storage tank behind the Police Station. Public safety vehicles will utilize the fueling station at the Department of Public Works. This request includes potential clean up should there be any contamination. The removal is required both because of the age of the facility and the need to redesign the boundary of the Police Station parking lot and the new parking lot on land acquired by the Town. *(Submitted by: Public Facilities Department)*

The Town Manager's recommendation for the Police Station Underground Storage Tank Removal is \$28,500 in the Tier 1 cash capital category.

## **PUBLIC SCHOOLS**

**NEEDHAM HIGH SCHOOL RADIO SYSTEM (Request: \$37,275)**

This funding will support the purchase and installation of a radio repeater, antenna and 25 portable radios at Needham High School, for the purpose of implementing a unified and reliable administrative radio system for communicating during lockdowns and emergencies. Currently, a limited number of two-way radios are in use. However, the existing equipment is aged and does not possess the power or range necessary for building-wide communication. The funding will increase the number of functioning radios so that all personnel can communicate in an emergency. The purchase includes: a radio repeater, programming for the repeater, UHF antenna system, two and four-way portable radios, spare batteries, set up, programming and tuning, FCC licensing & frequency coordination. *(Submitted by: Needham Public Schools)*

**SCHOOL COPIER REPLACEMENT (Request: \$59,620)**

Photocopiers are located in all of the schools and the administration building, and are used both by administrative and teaching staff. Teachers use the machines to reproduce classroom materials, including homework sheets, exams, teaching packets, etc. Currently, the School Department owns 44 copiers and 4 RISO duplicating machines. Copier replacement is planned on a

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lifecycle analysis, which projects when a copier should be replaced based on actual usage and the manufacturer's total estimated capacity. Copiers that are heavily used are replaced more frequently than copiers that are lightly used. A seven-year maximum duty life is assumed for most machines, even if they have not yet reached maximum copy allowances, given the additional operating expense associated with servicing and maintaining older equipment, as well as the difficulty in obtaining replacement parts. This analysis assumes that copiers are re-deployed around the District, as needed, to match copier use with equipment capacity. The requested funding will support the replacement of eight (8) copiers/RISO machines. *(Submitted by: Needham Public Schools)*

**SCHOOL FURNITURE, MUSICAL INSTRUMENTS, FITNESS EQUIPMENT AND GRAPHIC ARTS EQUIPMENT (Request: \$79,250)**

Musical Equipment – The purpose of this program is to replace musical instruments, especially large string instruments and pianos, which are over 25 years old. After decades of heavy use, many of the School Department's string instruments are no longer usable or repairable. The older pianos, while still usable, are costly to repair and maintain. The Department is in the ninth year of the replacement cycle, and continues to see major improvement in the quality of musical instruments available for student use. Funding in the final year of the replacement cycle (FY2014) would replace the grand piano in the Newman School Auditorium. The Department intends to change the replacement program to an expansion program due to population growth in fiscal years 2015 – 2018 and beyond.

School Furniture - This purpose of this program is to continue the replacement cycle for school furniture in poor and fair condition at Hillside, Mitchell, Newman and Pollard. In these schools, furniture is 10-20+ years old and in a state of disrepair after decades of heavy use. By FY2015, all furniture in poor condition will have been replaced at these schools. Unless circumstances dictate otherwise, the FY2014 funding is planned for the Newman School.

Fitness Equipment - The Needham High School renovation project budget included a large amount of fitness equipment for student use, which will need to be replaced as the components age and the equipment reaches the end of its useful life. In addition, the Pollard Middle School owned a number of strength circuit machines, which will need to be replaced on a regular basis going forward. The manufacturer's estimated life cycle is five (5) years for treadmills, six (6) years for cross trainers, eight (8) years for recumbent and upright bicycles, 23 years for rowing machines, and 25 years for circuit training equipment. The Department's request is based on a longer replacement cycle of: five to seven (5 – 7) for treadmills, nine (9) years for cross trainers, eight (8) years for recumbent bikes, 12 years for upright bikes, 19-20 years for rowing machines and 11-16 years for circuit training equipment. Unless circumstances dictate otherwise, the FY2014 funding is planned for three spinning bikes and one treadmill.

High School Graphics Production Room - This program continues the equipment replacement cycle for equipment used in the Graphics Production Center at Needham High School. This program provides convenient and cost effective service, and also provides hands-on educational training in the field of professional graphics and printing production for students. Unless

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circumstances dictate otherwise, the FY2014 funding is intended for purchase of a vinyl cutter – heavy duty, a thermal transfer press, a flash dryer, and a paper joggin machine. *(Submitted by: Needham Public Schools)*

**INTERACTIVE WHITEBOARD TECHNOLOGY, 1:1 INITIATIVE, TECHNOLOGY INOVATION, AND TECHNOLOGY REPLACEMENT (Total Request: \$633,800)**

Interactive Whiteboard Technology - This program funds the purchase and installation of whiteboard technology in the Needham schools. Unless circumstances dictate otherwise, the FY2014 funding is planned for Broadmeadow, Mitchell and Pollard. The overall number of whiteboards to be installed at Pollard and Broadmeadow has increased due to the reallocation of rooms and the use of the modular classrooms at the Pollard School.

School Department NPS 1:1 Initiative - This program continues the initiative to introduce tablet technology on a 1:1 basis at Pollard, High Rock and Needham High School. The FY2014 funding is planned for the expansion of the program to all grade eight students during the 2013 – 2014 school year, and preparation for expansion to students in the seventh grade and current students attending the High School in the following year. The FY2014 request will support the installation of additional wireless access points at Pollard and Needham High School and the purchase of tablet devices for the remaining Pollard Grade Eight teachers as well as High School teachers and Pollard Grade Seven teachers preparing for the implementation.

Technology Innovation - In years past, the School Technology Request has been organized as funding for computer replacements, interactive whiteboards, and, most recently, inclusion of the NPS 1:1 Initiative. The funds received are earmarked for the replacement cycle, as guided by the constraints of the technology plan. This framework does not allow School staff to evaluate and experiment with emerging technologies to foster student learning and achievement in the District. The requested funding will support experimentation on a small scale, which will be useful for assessment and for building staff capacity. The FY2014 funding is for the purchase of eReaders, such as Kindles and Nooks, for use in School libraries, and for the purchase of iPads for experimentation at the elementary school level.

Technology Replacement – The FY2014 school technology funding request includes The replacement of 313 teacher, administrator, student, lab and laptop computers that have reached or are functioning beyond the end of their seven-year lifecycle. A total of 124 of these computers are for teachers and administrators throughout the District. Another 163 are lab and classroom computers at Eliot, Hillside, Newman, Pollard and the High School. The majority of the computers being purchased will be deployed at the High School. FY2014 represents the second year of the anticipated five-year timeframe to replace the High School computers. The request also includes the replacement of four school-based servers, the High School Foreign Language lab server and five district data servers that are housed at the ETC. These servers have been running 24/7 for three and four years and will be repurposed to less critical functions for two and three years respectively. This category also includes the replacement of eight UPS batteries that support critical servers throughout the District. Other requested items are the replacement of 47 printers across the District, and funding to analyze the impact of the recent operating system

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conversion to Apple's new operating system, Lion, on the hundreds of software packages owned by the District. *(Submitted by: Needham Public Schools)*

The Town Manager's recommendation for Consolidated School Copiers, Musical Instruments and Equipment, High School Radio System and Technology is \$542,092 in the Tier 1 cash capital category and \$267,853 in the Tier 2 cash capital category.

**POLLARD BOILER REPLACEMENT (Request: \$612,277)**

This request will fund the replacement of the two (2) boilers in the back boiler room of the Pollard Middle School with three (3) high efficiency condensing boilers. Currently, the building is designed to operate with two (2) boiler rooms with two (2) boilers in each of those rooms. These boiler rooms are presently oversized, and there have been logistical problems with running the boilers in both of these rooms simultaneously. An inability to successfully run boilers in both rooms simultaneously does not allow for sufficient redundancy should any failure in one of these boilers occur. Upgrading the front boiler room with three (3) high efficiency boilers and removing the boilers in the back boiler room will allow the front boiler room to carry the heating load of the entire building without any of the problems currently being experienced. The current boilers are over twenty (20) years old, and are becoming problematic. The new boilers will be designed for natural gas and will increase the energy efficiency of the heating systems at the Pollard School. This project should be eligible for NStar energy efficiency rebates to offset the cost of buying a more efficient model. The project also includes funding for the removal of the current oil tank at the Pollard School. The elimination of underground fuel storage reduces the Town's liability in case of leakage or tank failure. *(Submitted by: Public Facilities Department)*

The Town Manager's recommendation for the Pollard Boiler Replacement is \$612,277 in the Tier 1 debt financing category.

**POLLARD TELEPHONE SYSTEM REPLACEMENT (Request: \$53,000)**

This request will fund the upgrade of the telephone system at the Pollard Middle School to a more modern system. There are presently more telephone users at the Pollard than the current equipment can handle, and the manufacturer no longer supports the existing equipment. This system has required frequent repairs and has caused intermittent disruption of phone service to the building occupants. This request would include rewiring areas where appropriate and procuring and installing the new system. *(Submitted by: Public Facilities Department)*

The Town Manager's recommendation for the Pollard Telephone System Replacement is \$53,000 in the Tier 1 cash capital category.

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**HILLSIDE SCHOOL FEASIBILITY (Request: \$500,000)**

Constructed in 1960, the Hillside Elementary School has undergone both addition and renovation, including the installation of modular classrooms, over the past 40 years, but is in need of additional total replacement to address building deficiencies and modernize the learning environment. This request would bring the Hillside facility to a level of modernization comparable to that of the Eliot School. This is a preliminary request, and assumes the construction of a new facility on the Hillside site, with modular classrooms leased for a two-year period to house students during the construction phase. Given the environmental and access issues associated with the Hillside site, however, it is possible that the Hillside School could be relocated or an alternative project scope considered. Final decisions will be made following a feasibility study, conducted jointly with the MSBA. Project timing assumes that a Statement of Interest will be submitted to the MSBA in early 2013, and that a request for Town Meeting funding for the feasibility study will be presented in November, 2013. Project costs are for an 80,650 s.f. building with a capacity of 487 students, and are estimated to be \$57.3 million. The current estimate is that MSBA funding, if approved, would be 31% of the project costs, less relocation expenses.) (*Submitted by: Needham Public Schools*)

The Town Manager's recommendation for the Hillside School Renovation or Replacement Feasibility is \$500,000 in the Extraordinary cash capital category.

**PUBLIC WORKS**

**TWO-WAY RADIO UPGRADE (Request: \$47,700)**

Effective January 2013, the Federal Communications Commission has mandated that all existing licensees must convert their wideband (25kHz systems) radio systems to narrowband (12.5kHz). The majority of the two-way radios installed in DPW vehicles have been converted to radios that are capable of functioning on narrowband. This proposal would provide for the purchase of ten two-way radios to be installed in vehicles that have radios that do not presently comply with the narrowband requirement and are not up for replacement. An additional six radios will be purchased to provide the DPW Garage with replacement narrowband compliant two-way radios should any of the existing radios fail. Twelve portable radios and chargers will be purchased to be used during snow and emergency events. Additionally, base radios for the first floor of the PSAB and portable radios for Public Facilities and Building Department Staff are included in this request. (*Submitted by: Department of Public Works*)

The Town Manager's recommendation for the DPW Two-Way Radio Upgrade is \$47,700 in the Tier 1 cash capital category.

**GENERAL FUND CORE FLEET (Request: \$387,000)**

The Core fleet consists of passenger vehicles such as sedans and wagons, vans, pick-up trucks, small dump trucks, and utility trucks. Unless circumstances require otherwise, the vehicles scheduled to be replaced in FY2014 include:



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| Unit | Division     | Year | Description – Existing | Description - Request | Miles  | Cost      |
|------|--------------|------|------------------------|-----------------------|--------|-----------|
| 65   | Parks & For. | 2008 | 4WD F350 Pick-Up Truck | Same                  | 41,393 | \$51,900  |
| 66   | Highway      | 2007 | One Ton Dump Truck     | Same                  | 46,749 | \$78,300  |
| 6    | Highway      | 2000 | Six Wheel Dump Truck   | Same                  | 39,895 | \$178,400 |
| 72   | Parks & For. | 2007 | One Ton Dump Truck     | Same                  | 42,106 | \$78,400  |

*(Submitted by: Department of Public Works)*

The Town Manager's recommendation for the Public Works Core Fleet is \$387,000 in the Tier 1 cash capital category.

**GENERAL FUND SMALL SPECIALTY EQUIPMENT (Request: \$130,800)**

This program provides funding to purchase new and replace existing Public Works specialty equipment. This equipment is critical for the efficient operation of the Department's maintenance programs. The purchase of this equipment will increase productivity and expand the use of maintenance dollars. Unless circumstances require otherwise, the equipment scheduled to be replaced in FY2014 includes:

| Unit | Division     | Year | Description – Existing | Description - Request | Miles | Cost     |
|------|--------------|------|------------------------|-----------------------|-------|----------|
| 186  | Parks & For. | 1963 | Leaf Collector         | Same                  | n/a   | \$25,900 |
| 303  | Parks & For. | 1985 | Tractor                | Same                  | 2,749 | \$74,900 |
| 356  | Parks & For. | 1985 | Aerator                | Same                  | n/a   | \$30,000 |

*(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Small Specialty Equipment is \$130,800 in the Tier 2 cash capital category.

**GENERAL FUND SNOW AND ICE EQUIPMENT (Request: \$210,300)**

This request will provide funding for equipment used primarily in the Snow and Ice Program. Unless circumstances require otherwise, the vehicles and equipment proposed for replacement in FY2014 are as follows:

| Unit | Division | Year | Description – Existing   | Description - Request | Miles | Cost    |
|------|----------|------|--------------------------|-----------------------|-------|---------|
| 6A   | Highway  | 2000 | Material Spreader        | Same                  | n/a   | 32,200  |
| 116  | Highway  | 1998 | Sidewalk Tractor (Track) | Same                  | 3,609 | 169,300 |
| 66A  | Highway  | 2006 | Material Spreader        | Same                  | n/a   | 8,800   |

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*(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Snow and Ice Equipment is \$210,300 in the Tier 2 Cash capital category.

**DPW PHASE II (GARAGE BAYS) (Request: \$1,000,000)**

The recently completed Public Services Administration Building was occupied by the DPW in November 2011, eliminating the space problems and air quality issues experienced on the second floor of the current DPW Operations Building. However, deficiencies continue to exist throughout the 470 Dedham Avenue building internally and the DPW site externally. Ultimately the expansion and renovation of the DPW Operations Building and site, referred to as DPW Phase II, will be required to address both storage space for equipment and storm water quality issues. In FY 2013, Town Meeting appropriated \$40,000 for a feasibility study of the proposed DPW storage garage. The work proposed for FY2014 is the construction of six garage bays. The work addresses part of the storage space needs for DPW equipment and will provide for enclosed vehicle coverage. *(Submitted by: Department of Public Works and Public Facilities- Construction)*

The Town Manager's recommendation for the DPW Complex Renovation Phase 2/Garage Bays is \$1,000,000 in the Tier 1 category (\$400,000 in tax levy supported debt and \$600,000 in alternate financing through Water and Sewer Enterprise Funds.)

**PUBLIC WORKS INFRASTRUCTURE PROGRAM (Request: \$1,408,000)**

Street Resurfacing - This purpose of this program is to improve the structural and surface integrity of the Town's miles of accepted streets. The primary strategy of this program is asphalt paving and incidental work, such as asphalt berm curb, new grass shoulders, corner reconstruction including handicapped ramps, minor drainage improvements, street sign replacement, traffic markings and signs.

Traffic Signal & Intersection Improvements - This program funds traffic signal and intersection improvements, and new traffic signal installations. Unless circumstances dictate otherwise, FY2014 funding is proposed for Forest Street at Central Avenue.

Combined Sidewalk Program - This Program funding addresses the failing network of sidewalks throughout the community. There are over 160 miles of accepted sidewalks in Needham. Over half of the Town's sidewalks do not comply with current standards and require significant improvements including the installation of handicapped ramps. Sidewalk improvements must comply with Federal and State laws and construction standards.

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Storm Drain Capacity Improvements - This program provides funding to improve roadway drainage capacity. The Town has identified and prioritized a number of areas throughout Needham where improvements are required to resolve flooding problems and illicit discharge. These measures include installation of additional storm drains, and storm drain replacement, extension, and capacity increases.

Brooks and Culverts – Repair and Maintenance - This repair and maintenance program was developed to address flooded and poor draining brooks, streams, waterways and culverts throughout the Town that have been severely damaged by heavy rains/storms. Proposed work includes cleaning and debris removal and restoration of retaining walls. Unless circumstances require otherwise, FY2014 funding will be directed to continued wall repair along Rosemary Brook. (Submitted by: Department of Public Works)

The Town Manager’s recommendation for the Public Works Infrastructure Program is \$600,000 in the Tier 1 debt financing category.

## **PUBLIC FACILITIES**

### **100KW PORTABLE GENERATOR (Request: \$61,250)**

It has been determined by emergency planning personnel that the new Senior Center will be an ideal location for use as a respite shelter for residents during power outages. This request will fund the purchase of a 100kW portable generator that can be temporarily installed at the Senior Center to ensure comfort and safety to those occupying the site. The Center has been designed to accommodate the use of an external, portable generator. (Submitted by: Public Facilities Department)

The Town Manager’s recommendation for the 100KW Portable Generator is \$61,250 in the Tier 2 cash capital category.

### **CORE FLEET (Request \$33,600)**

The Core fleet consists of passenger vehicles such as sedans and wagons, vans, pick-up trucks, small dump trucks, and utility trucks. Unless circumstances require otherwise, the vehicle scheduled to be replaced in FY2014 is a 2001 Ford F250 Pick-Up Truck with a cab that is primarily used by the Town’s carpenter. The current vehicle has an odometer reading of over sixty thousand miles and is due for replacement as it is currently beyond its useful life.

| Unit | Division | Year | Description – Existing    | Description - Request | Miles  | Cost     |
|------|----------|------|---------------------------|-----------------------|--------|----------|
| 702  | PFD      | 2001 | Ford 250 Pick-up with Cab | Same                  | 65,780 | \$33,600 |

(Submitted by: Public Facilities Department)

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The Town Manager's recommendation for the Public Facilities Core Fleet is \$33,600 in the Tier 2 cash capital category.

**ENERGY EFFICIENCY UPGRADE IMPROVEMENTS (Request: \$113,078)**

The Town conducted an engineering study for energy upgrades in 10 key buildings in the summer of 2011. The results of this study revealed that if the Town makes an initial investment in selected and recommended energy upgrades, the cost of these upgrades will pay for themselves within 10 years. FY2014 funding is planned for some of the more involved projects at the Eliot and Broadmeadow Schools, which will upgrade the already modern buildings and improve their energy usage. Some of these items include retro-commissioning the HVAC system at Broadmeadow, installing motion sensors for the lighting at Broadmeadow, installing timers on the roof top exhaust fans in both buildings, and converting the lighting to more energy efficient lighting in both buildings. *(Submitted by: Public Facilities Department)*

The Town Manager's recommendation for Energy Efficiency Upgrade Improvements is \$113,078 in the Tier 1 cash capital category.

**PUBLIC FACILITIES MAINTENANCE PROGRAM (Request: \$465,750)**

This project funds annual maintenance of public buildings throughout the Town and School Department including but not limited to: asbestos abatement, small equipment replacement, duct cleaning, painting, and other repairs and necessary upgrades. FY2014 funding is planned for duct cleaning at the C & D Buildings of the High School, asbestos abatement at Hillside and Mitchell Schools, flooring replacement at the Eliot and Broadmeadow Schools, and xeriscaping at the High School. Flooding issues at the Hillside School will be addressed as will containment of fuel oil, accessible routes to and from the building, and water fountain replacement at the Pollard School. With the natural gas line installation on Brookline Street and the replacement of the Pollard boilers, the Department will convert the existing Mitchell School boilers to natural gas using remaining parts from the old Pollard boilers. *(Submitted by: Public Facilities Department)*

The Town Manager's recommendation for the Public Facilities Maintenance Program is \$430,560 in the Tier 1 cash capital category and \$35,190 in the tier 2 cash capital category.

**COMMUNITY SERVICES**

**ATHLETIC FACILITY IMPROVEMENTS (Request \$158,000)**

The Department of Public Works and the Park and Recreation Department have developed a maintenance plan for all fields, which includes new or total reconstruction, partial renovation, irrigation, drainage improvements, and equipment replacement

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or repair (bleachers, fences/backstops, player benches and miscellaneous equipment) for multi-use fields and ball diamonds. Athletic facility improvement funding for FY2014 is proposed for engineering and design of the Newman School athletic field renovation project for diamonds #1 and #2 and the multi-use field. The reconstruction would involve elevating the level of the fields, the addition of drainage, new irrigation, fencing and player benches, and related work. The Newman fields are currently at the level of the water table, resulting in low utilization during the spring and fall playing seasons. The unavailability of the Newman fields has resulted in the overuse of other fields, so making the Newman fields available during the spring and fall sports seasons will improve conditions and playability on the other fields. The estimated cost of construction is \$1,475,200. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Athletic Facility Improvements is \$158,000 in the Tier 1 cash capital category contingent on Community Preservation Funding.

**MILLS FIELD IMPROVEMENTS (Request: \$40,000)**

Mills Field has been the location of several park improvements in the past four years including renovated tennis courts, new playground equipment, addition of high barrier fencing between the baseball diamond and tennis courts, irrigation work and replacement of backstop and outfield fencing. Fencing around the playground area has also been replaced. The purpose of the current project is to provide safety and aesthetic renovations to the park, including the creation of new parking areas at a circular drive (24 spaces) and along Hampton Avenue (10-12 spaces); basketball improvements including an asphalt overlay to basketball court, striping, and replacement poles and backboards; replacement of picnic tables and grills; and xeriscape gardening in appropriate locations. The ballfield will also be stripped and sodded. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Mills Field Improvements is \$40,000 in the Tier 1 cash capital category contingent on Community Preservation Funding.

**TRAIL IMPROVEMENT PROJECT – NEEDHAM RESERVOIR (Request: \$65,000)**

This request is for the design and permitting of a handicap accessible perimeter trail (with boardwalks) around the Needham Reservoir. The development of an accessible trail around one of the Town's important amenities – the Needham Reservoir – was a key priority identified in the Town's Trail Master Plan. This project will provide a unique recreational opportunity for those with mobility problems, and will include the installation of an accessible fishing dock/pier. The primary purpose of designing and subsequently constructing a formal trail system at this location is to preserve the sensitive wetland system that surrounds the reservoir. In order to protect the functions and values of this area (including but not limited to wildlife habitat, storm damage prevention, and pollution prevention) it is necessary to direct pedestrians to a predefined and appropriate space. Creating a functional, dry and obvious trail around the reservoir will address the haphazard and detrimental routes that are developing and will discourage encroachment into the vegetated portions of the property. Furthermore, replacing the

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outdated access drive with a solid, non-erodible surface will decrease the potential sediment loads to both the surrounding wetlands and the reservoir. *(Submitted by: Community Development)*

The Town Manager's recommendation for Trail Improvement Project – Needham Reservoir is \$65,000 in the Tier 1 cash capital category contingent on Community Preservation Funding.

**TRAIL IMPROVEMENT PROJECT – NEWMAN EASTMAN (Request: \$90,000)**

The trail system in the Eastman Conservation land behind the Newman School is utilized as part of the curriculum of the Needham Public Schools and its Science Center. It is planned that this project will be coordinated with a project that is proposed by the Department of Public Works to improve the athletic fields at the Newman School. Design and permitting estimates include assistance from a structural engineer for bridges and walkways within the wetland areas. With the recent purchase of the Carol/Brewster properties, the trail built on those properties will now be able to be officially connected with those in the Eastman Conservation area. Access to recreational trails continues to be a high priority for residents as evidenced in the Town's biannual citizen survey. *(Submitted by: Community Development)*

The Town Manager's recommendation for Trail Improvement Project – Newman/Eastman Conservation is \$90,000 in the Tier 1 cash capital category contingent on Community Preservation Funding.

**RECYCLING/TRANSFER STATION (RTS) ENTERPRISE FUND**

**CONSTRUCTION EQUIPMENT (Request: \$320,400)**

The construction equipment proposal is for the replacement of the waste handler. The waste handler is a track style machine used to grind and compact trash in the tipping floor building. This provides compacted materials for hauling.

| Unit | Division | Year | Description – Existing | Description - Request | Miles | Cost      |
|------|----------|------|------------------------|-----------------------|-------|-----------|
| 105  | RTS      | 1998 | Waste Handler          | Same                  | n/a   | \$320,400 |

*(Submitted by: Department of Public Works)*

The Town Manager's recommendation for RTS Construction Equipment is \$320,400 in the Tier 1 RTS debt financing category.

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**LARGE SPECIALTY EQUIPMENT (Request: \$218,100)**

Public Works specialty equipment consists of power-assisted equipment or other specialized tools used by the Department in the performance of its work. The vehicle scheduled to be replaced in FY2014 is a [truck with a tilt frame that loads and unloads roll-off containers](#). The roll-off is used to move the trash and recycling materials around the RTS yard.

| Unit | Division | Year | Description – Existing | Description - Request | Miles | Cost      |
|------|----------|------|------------------------|-----------------------|-------|-----------|
| 42   | RTS      | 1999 | Roll-Off               | Same                  | n/a   | \$218,100 |

*(Submitted by: Department of Public Works)*

The Town Manager’s recommendation for RTS Large Specialty Equipment is \$218,100 in the Tier 1 RTS cash capital category.

**SEWER ENTERPRISE FUND**

**CORE FLEET (Request \$47,900)**

The Core fleet consists of passenger vehicles such as sedans and wagons, vans, pick-up trucks, small dump trucks, and utility trucks. Unless circumstances require otherwise, the vehicle scheduled to be replaced in FY2014 is:

| Unit | Division | Year | Description – Existing     | Description - Request | Miles  | Cost     |
|------|----------|------|----------------------------|-----------------------|--------|----------|
| 94   | Sewer    | 2008 | 4WD F250 with Utility Body | Same                  | 75,314 | \$47,900 |

*(Submitted by: Department of Public Works)*

The Town Manager’s recommendation for Sewer Core Fleet is \$47,900 in the Tier 1 Sewer cash capital category.

**DRAIN SYSTEM IMPROVEMENTS - WATER QUALITY (EPA) (Request: \$71,000)**

The Town is required under its NPDES Permit to take measures to improve its storm water drainage system to upgrade the quality of the water discharged to the Charles River and other impaired water bodies in Needham. FY2014 funding will support the development of a watershed management plan. Currently, the Town is divided into four large sub-watershed areas. The purpose of the plan is to better manage and control the quality of stormwater by creating approximately 12 to 15 sub-watershed areas; design measuring and testing locations; and develop an operations procedure that will help direct the Town’s investigation and remediation efforts.

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The Town Manager's recommendation for Drain System Improvements/Water Quality – EPA is to defer action until the Town's NPDES Permit is completed.

**SEWER SYSTEM REHABILITATION INFILTRATION AND INFLOW REMOVAL PROGRAMS (Request: \$600,000)**

This request is for the second phase of the study of Infiltration and Inflow (I/I) in the existing sewer system. The Town of Needham, along with numerous other communities, is under Administrative Orders from the DEP to identify and remove Infiltration and Inflow (I/I) in existing sewer systems. Infiltration is defined as groundwater or storm water runoff that enters the system thru deteriorated pipe or manhole structures that by definition need to be repaired. Inflow is defined as clean, non-septic water, which is introduced to the system. This water is generally produced by residential sump pumps that drain basements. The on-going infiltration study will identify the areas of the collection system that are contributing high volumes of I/I into the system. On the basis of volumes of flow and knowledge of local sewer system overflows (SSO) or basement flooding, a new order of priority will be established to determine the scheduling of the engineering, design and remediation work. The master plan that the Sewer Division is using to identify areas of work is outdated. The first phase of the current study was funded in fiscal year 2013 and included engineering, and permanent and portable flow meter installation. The components of the second phase include engineering (\$100,000) and closed circuit TV services (\$500,000). *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for the Sewer System Rehabilitation Infiltration and Inflow Removal Program is \$600,000 in the Tier 1 Sewer cash capital category.

**WATER ENTERPRISE FUND**

**SMALL SPECIALTY EQUIPMENT (Request \$57,300)**

This program provides funding to purchase new and replace existing Public Works specialty equipment. This equipment is critical for the efficient operation of the Department's maintenance programs. The purchase of this equipment will increase productivity and expand the use of maintenance dollars. Unless circumstances require otherwise, the equipment scheduled to be replaced in FY2014 is a Vac. Tech Trailer. The Vac. Tech Trailer is used to wash down and vacuum debris from water gate shut-offs and also to exercise gate valves.

| Unit | Division | Year | Description – Existing | Description - Request | Miles | Cost     |
|------|----------|------|------------------------|-----------------------|-------|----------|
| 160  | Water    | 2006 | Vac. Tech Trailer      | Same                  | n/a   | \$57,300 |

*(Submitted by: Department of Public Works)*



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The Town Manager's recommendation for the Water Small Specialty Equipment is \$57,300 in the Tier 1 Water cash capital category.

**FILTER MEDIA REPLACEMENT (Request: \$75,000)**

Filter media is used for manganese removal at the Charles River Water Treatment Facility. FY2014 represents the second year of the five year replacement cycle using a synthetic product as a substitute for natural greensand. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Filter Media Replacement is \$75,000 in the Tier 1 Water cash capital category.

**IRRIGATION SUPPLY FACILITY DESIGN (Request: \$80,000)**

This feasibility study will determine the potential yield of the two previously abandoned wells that are located at 480 Dedham Ave. These wells were originally abandoned due to water quality issues, but the water produced from these wells would be acceptable for irrigation. This study will determine if these wells will provide sufficient water to supply the DeFazio Playfields, Pollard Playfields, and the Needham Golf Club. The potential benefit of this project is reduced reliance on potable water - produced both by the Town and the MWRA - for irrigation. The study will provide an estimated cost for construction and potential revenue generation if the project is feasible. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Irrigation Supply Facility Design is \$80,000 in the Tier 1 Water cash capital category.

**SCADA SYSTEM UPGRADE (Request: \$435,000)**

This purpose of this request is to update the existing SCADA system, add a power monitoring system, and install a video monitoring system. A design study was conducted in the Fall of 2012 for this system. SCADA is an acronym that stands for Supervisory Control and Data Acquisition. The Town's Water SCADA System collects data from various sensors at the Charles River Water Treatment Plant as well as remote locations throughout the system. The data is then sent to a central computer which efficiently manages and controls the operations of the entire Water System. The current SCADA system is outdated. It communicates through copper communications lines owned and services by Verizon. These lines are unreliable and have resulted in an increase in communications failures over time. This new system will utilize a different method of communication which will make the system more reliable and efficient. Additionally, this project will include replacing the PLCs. These are programmable logic converters for the remote terminal units that relay information. A power monitoring system is being included as part of this upgrade for the primary pumps associated with the Town's Water facilities. This system will increase the efficiency of the operations and reduce energy consumption. This project will also include the installation of video monitoring

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equipment at water treatment facility and tanks, in accordance with guidance issued by Homeland Security. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for SCADA System Upgrade is \$435,000 in the Tier 1 Water cash capital category.

**SERVICE CONNECTIONS (Request: \$200,000)**

The purpose of this program is to remove old iron pipe water services that contain lead from the water distribution system. Old iron and lead water services are replaced prior to a road reconstruction/paving project. If the water service connections are not replaced, an element of the subsurface infrastructure is susceptible to failure before the useful life of the reconstructed roadway has been realized. The FY2014 funding will provide approximately one year's value of water service replacements, which will fall in line with the road resurfacing program schedule. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Water Service Connections is \$200,000 in the Tier 1 Water cash capital category.

**ST. MARY'S PUMP STATION (Request: \$5,565,100)**

The St. Mary's Pump Station, built in 1957, was designed to pump potable water from the MWRA aqueduct to supplement the Town's demand for water. There are five pumps located within the station; however only two of the pumps are operable, resulting in less capacity than the permitted 6.5 million gallons per day (mgd). This request will provide necessary improvements - either renovation or total reconstruction - to meet future water demands, and to ensure the station has emergency back-up electrical power. The budget includes design and engineering, project management, contract management, owner's expenses, site development, general contractor, heavy equipment, F, F&E, and technology. Town Meeting previously appropriated \$490,000 for design and engineering. *(Submitted by: Department of Public Works/Public Facilities - Construction)*

The Town Manager's recommendation for St. Mary's Pumping Station is \$5,565,100 in the Tier 1 Water debt financing category.

**WATER SYSTEM REHABILITATION PROGRAM (Request: \$715,800)**

The annual Water System Rehabilitation Program draws from the recommendations of the Water System Master Plan. The master plan recommends that pipes 85 years or older be considered for replacement or relining. This list of older pipes is evaluated and prioritized, and then cross-referenced with work proposed for other utilities, road repairs, or reconstruction. Unless circumstances require otherwise, FY2014 funding will support construction of a new eight inch pipe (2,500 linear feet) on Grant Street from Junction Street to Dedham Avenue. *(Submitted by: Department of Public Works)*

The Town Manager's recommendation for Water System Rehabilitation is \$715,800 in the Tier 1 Water cash capital category.