

Infrastructure Submissions

Section 5

**Five Year Department Submissions
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FY2017 - FY2021**

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Capital Project Request

Project Title: **Athletic Facility and Public Recreation Improvements** Fiscal Year: **2017**
 Purpose: **Construction/Renovation** Classification: **Infrastructure** Status: **Unfunded Request from Prior CIP**
 Department: **Public Works** Funding Source: **Community Preservation Fund**
 Partners: **Park and Recreation**

Parameters

Response

- | | |
|--|-----|
| 1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included? | No |
| 2. Are there recommendations or costs identified by other departments which are NOT factored into the request? | No |
| 3. Does the project support activities to produce new revenue for the Town? | No |
| 4. Does this project require any permitting by any Town or State agency? | Yes |
| 5. If funded, will additional permanent staff be required? | No |
| 6. If funded, will the operating budget need to be increased to cover operating expenses? | No |
| 7. If funded, will this project increase the operating expense for any other department? | No |
| 8. If funded, will this project lower the requesting Department's operating costs? | No |
| 9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted? | No |
| 10. If the project is NOT funded, will current Town revenue be reduced? | No |
| 11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset? | No |
| 12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)? | Yes |
| 13. Is this a request in response to a Court, Federal, or State order? | No |
| 14. Is this a request in response to a documented public health or safety condition? | No |
| 15. Is this a request to improve or make repairs to extend the useful life of a building? | No |
| 16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use? | No |
| 17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure? | No |
| 18. Will any other department be required to provide assistance in order to complete the project? | Yes |

Primary Reason for the Request: **Scheduled replacement**

How was the Estimated Project Cost Determined: **Hired Consultant**

Estimated Project Cost: **\$4,295,500**

Useful Life: **Between twelve (12) and eighteen (18) years**

Budget Impact: **Negligible impact on the annual operating expenses less than \$5,000**

Project Budget Elements	Prior Request	Project Budget	2017	2018	2019	2020	2021
Planning/Feasibility		\$238,000		\$31,000	\$207,000		
Design/Engineering	\$238,000	\$0					
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction	\$3,393,000	\$4,008,800	\$441,800	\$254,000	\$363,000	\$2,500,000	\$450,000
Construction Management		\$48,700	\$48,700				
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$3,631,000	\$4,295,500	\$490,500	\$285,000	\$570,000	\$2,500,000	\$450,000

\$0

Capital Project Request

Project Title: **Athletic Facility and Public Recreation Improvements**

Fiscal Year: **2017**

Project Description and Considerations

The Department of Public Works and Park and Recreation have developed a maintenance plan for all fields, which includes new or total reconstruction, partial renovation, irrigation, drainage improvements, and equipment replacement or repair (bleachers, fences/backstops, player benches and miscellaneous equipment) for multi-use fields and ball diamonds.

In FY 2015 the Town approved funding for a feasibility study to improve the field quality and drainage at Memorial Park fields. This study was initiated in the Fall of 2014.

FY17 - Drainage Remediation at Memorial Park: \$490,500

Construction Oversight (Engineering): \$48,700

Construction: \$121,100

Drainage Improvements: \$320,700

FY18 - Cricket Field – Drainage and field renovation for Field #2, irrigation renovation for both fields: \$285,000

Engineering: \$31,000

Design and Construction: \$254,000

FY19 - Claxton Field – Upgrade field lighting system to more energy efficient lights: \$363,000

Turf Field Replacement at DeFazio & Memorial Park – remove the existing turf carpet, regrade, and install new artificial field turf:

Engineering \$207,000

FY20 - Turf Field Replacement at DeFazio & Memorial Park – remove the existing turf carpet, regrade, and install new artificial field turf –

Construction \$2,500,000

FY21 - McLeod Field - drainage repair, amend soils, and install new sod - Construction \$450,000

ADDITIONAL FUTURE PROJECTS:

Avery Field – improve parking (DPW road project)

Broadmeadow School Diamond #1 expand infield skin and irrigation adjustment, drainage for diamond #2

DeFazio Complex – install walking path with protective netting to DeFazio #1

High Rock Fields– new backstop, player benches, perimeter fencing

Perry Park – new backstop, player benches, player fencing

Dwight Field – improve player bench areas and overall fencing

DeFazio Tot-Lot – improve fencing

Construction of new athletic fields (locations - TBD)

4. Planning board filing may be required.

12. All items except for Turf Fields are eligible for Community Preservation Funds.

18. The Department of Public Works will be partnering with Park and Recreation on each of these projects.

Capital Project Request

Project Title: **Drain System Improvements - Water Quality (EPA)** Fiscal Year: **2017**
 Purpose: **Construction/Renovation** Classification: **Infrastructure** Status: **Unfunded Request from Prior CIP**
 Department: **Public Works** Funding Source: **General Fund**
 Partners:

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	No
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	No
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	Yes
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	No
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	Yes
13. Is this a request in response to a Court, Federal, or State order?	No
14. Is this a request in response to a documented public health or safety condition?	No
15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	No
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	No
18. Will any other department be required to provide assistance in order to complete the project?	No

Primary Reason for the Request: **Legal/regulatory requirement**
 How was the Estimated Project Cost Determined: **In-House Estimate** Estimated Project Cost: **\$3,486,000**
 Useful Life: **More than twenty-five (25) years**
 Budget Impact: **Negligible impact on the annual operating expenses less than \$5,000**

Project Budget Elements	Prior Request	Project Budget	2017	2018	2019	2020	2021
Planning/Feasibility	\$261,000	\$0					
Design/Engineering		\$236,000	\$118,000		\$118,000		
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction	\$2,225,000	\$3,250,000		\$2,000,000		\$250,000	\$1,000,000
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$2,486,000	\$3,486,000	\$118,000	\$2,000,000	\$118,000	\$250,000	\$1,000,000
\$0							

Capital Project Request

Project Title: **Drain System Improvements - Water Quality (EPA)**

Fiscal Year: **2017**

Project Description and Considerations

The Town entered into a Memorandum of Understanding (MOU) with the Environmental Protection Agency (EPA) to commence a Town-wide investigation of stormwater discharge to address the discharge of pollutants through stormwater into the Charles River Basin and other water bodies. Incorporated into this plan are improvements to the Stormwater Drainage System to upgrade the quality of the water discharged into the Charles River in Needham. This request is to support action items identified in the MOU.

When the 2003 EPA National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit took effect, it incorporated several requirements identified in the MOU. There were a number of projects proposed to manage stormwater quality effectively. The second permit to be issued by the EPA is overdue and is expected in the current fiscal year.

Past projects completed to improve stormwater discharge with a variety of methods are:

Town Library
High School
Chestnut Street Reconstruction
High Rock School
Lake Drive
Broadmeadow School
Eliot School

Design completed, awaiting construction
DPW Building (470 Dedham Ave) Drainage improvements

The Watershed Management plan was approved for design in the May 2014 Town Meeting. Design work was initiated in the Summer of 2014 and will be completed in December of 2015.

FY17 – Rosemary Lake Sediment Removal – Engineering & Design \$118,000

The DPW is investigating whether the Rosemary project is eligible for Community Preservation funding.

FY18 – Rosemary Lake Sediment Removal – Construction \$1,000,000 to \$2,000,000

FY19 – The Town Reservoir Sediment Removal – Engineering & Design \$118,000

The DPW is investigating whether the Reservoir project is eligible for Community Preservation funding.

FY20 – Action Items from Watershed Management Plan funded in FY 15 – Items TBD, Design & Construction \$250,000

FY21 – The Town Reservoir Sediment Removal – Construction \$1,000,000

Future Projects

DPW Facility SWMP, Construction \$79,000

The Sportsman Pond water quality issues, low dissolved oxygen, which had previously been submitted on this form will be addressed by the Sportsman’s Club.

4. Conservation Commission, State and Federal permitting may be required for dredging.

Capital Project Request

Project Title: **Public Works Infrastructure Program** Fiscal Year: **2017**
 Purpose: **Construction/Renovation** Classification: **Infrastructure** Status: **Unfunded Request from Prior CIP**
 Department: **Public Works** Funding Source: **General Fund**
 Partners:

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	No
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	No
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	Yes
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	No
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	No
13. Is this a request in response to a Court, Federal, or State order?	No
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15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	No
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	No
18. Will any other department be required to provide assistance in order to complete the project?	No

Primary Reason for the Request: **Scheduled replacement**
 How was the Estimated Project Cost Determined: **In-House Estimate** Estimated Project Cost: **\$8,725,000**
 Useful Life: **Between twelve (12) and eighteen (18) years**
 Budget Impact: **Negligible impact on the annual operating expenses less than \$5,000**

Project Budget Elements	Prior Request	Project Budget	2017	2018	2019	2020	2021
Planning/Feasibility		\$0					
Design/Engineering	\$569,000	\$370,500	\$132,500	\$128,000		\$110,000	
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction	\$7,144,500	\$8,354,500	\$1,567,500	\$1,422,000	\$1,650,000	\$1,590,000	\$2,125,000
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses	\$145,000	\$0					
TOTAL	\$7,858,500	\$8,725,000	\$1,700,000	\$1,550,000	\$1,650,000	\$1,700,000	\$2,125,000

\$0

Capital Project Request

Project Title: **Public Works Infrastructure Program**

Fiscal Year: **2017**

Project Description and Considerations

The Public Works Infrastructure Program allows the Department of Public Works to make improvements and repairs to Town infrastructure, including but not limited to roads, bridges, sidewalks, intersections, drains, brooks and culverts. Each program is detailed below.

Due to the additional need for drainage work related to the Labor Day storm in 2013 the Traffic Signal & Intersection Improvement requests have been delayed two years. The FY 16 existing Storm Drain Capacity Improvement request has been delayed one year, and the Street Resurfacing and Sidewalk Program has been reduced throughout all five years of the request.

Street Resurfacing:

This program is essential to improve the structural and surface integrity of the Town's 123 linear miles of accepted streets. The primary strategy of this program is asphalt paving and incidental work. Incidental work may include asphalt berm curb, new grass shoulders, corner reconstruction including handicapped ramps, minor drainage improvements, street sign replacement, traffic markings, and signs.

Applying this repair strategy in a timely manner will extend the useful life of the roadway for up to 15 years. Installing a monolithic asphalt berm curb better defines the edge of road, improves drainage and protects the shoulder from erosion.

In the summer of 2015 a grant was offered for crack filling and pot hole repair as a result the winter storms in 2015. Winter Recovery Assistance Program granted the Town approximately \$137 thousand dollars of which \$45 thousand was appropriated towards street resurfacing with balance going to crack sealing.

The funding for FY 2017 has increased from the prior year's submission to address the overall Pavement Condition Index (PCI) which was 67 in the Fall of 2014. The Town targets roads with a PCI of below 70 for resurfacing/treatment. The Town targets a PCI of 60 or below for repair/renovation. The Town's goal is to maintain its roadway network at an average PCI rating of 80.

FY17 - \$621,000

FY18 - \$608,000

FY19 - \$595,000

FY20 - \$840,000

FY21 - \$725,000

The average useful life for asphalt paving is 15 years; the proposed 5 year capital request is \$3,389,000.

Capital Project Request

Project Title: **Public Works Infrastructure Program**

Fiscal Year:

2017

Supplemental Information

Traffic Signal & Intersection Improvements:

The costs are estimated by Engineering and require conceptual scope of work for project level costs that have not yet been determined. This program will fund Traffic Signal Improvements & Intersection Improvements and new traffic signal installations where none currently exist.

FY17 – No Funding requested

FY18 - Highland Avenue @ West Street, Engineering & Design - \$128,000

FY19 – Highland Avenue @ West Street, Construction - \$505,000

FY20 – Great Plain Avenue @ Greendale Avenue, this intersection has been identified as requiring intersection improvements and potentially the replacement of traffic signals, Engineering & Design - \$110,000

FY21 – Great Plain Avenue @ Greendale Avenue, Construction - \$643,000

The average useful life is 25 years; the proposed 5 year capital request is \$1,386,000.

Out Years

FY22 – Central Ave @ Great Plain Ave, Engineering & Design - \$160,000

Future intersections under consideration:

Dedham Ave/South

Central/Webster

Central/West

4th Ave/Kendrick

Central/Great Plain

Sidewalk Program:

This Program requires funding for the Town to address 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. The cost for sidewalk rehabilitation and reconstruction can vary significantly. Current estimates have identified over \$20,000,000 in backlogged sidewalks in need of repair.

Calendar year 2016 contract pricing to reconstruct one mile of asphalt sidewalk with incidental costs is estimated to be \$237,000 per mile (\$45.00/lf). Contract pricing to install a mile of granite curb with minor drainage improvements and incidental costs is estimated to be \$260,040 per mile (\$49.25/lf). These costs do not include engineering, design, tree removal and replacement, major drainage improvements or major public or private property adjustments.

FY17 - \$404,000

FY18 - \$484,000

FY19 - \$300,000

FY20 - \$450,000

FY21 - \$382,000

Capital Project Request

Project Title: **Public Works Infrastructure Program**

Fiscal Year: **2017**

The average useful life for asphalt sidewalk is over 30 years; the proposed 5 year capital request is \$2,020,000.

Storm Drain Capacity Improvements:

This program provides funding to improve roadway drainage capacity. The March 2002 Stormwater Master Plan identified a number of areas throughout Needham where improvements are required to resolve flooding problems and illicit discharge. Locations for improvements have been prioritized within the plan. This funding request also includes but is not limited to the installation of additional storm drains and the replacement and extension of drains on Manning Street, Hoover Road, Concord Road and Burnside Road with larger capacity drains. Since the issuance of the 2002 Stormwater Master Plan numerous multi-unit developments have been built or planned in the Town of Needham. These developments include new roads with drainage structures and roof or sump connections that are then connected to existing Town systems. These new connections have increased the load on the Town's drainage system and caused flooding in some areas.

- FY17 - Taylor Street / Central Avenue or Other Prioritized Projects – Engineering \$32,500
Ardmore & Hunnewell or Other Prioritized Projects – Eng. \$100,000; Const. \$337,500
- FY18 – Taylor Street / Central Avenue or Other Prioritized Projects – Construction \$180,000
- FY19 – TBD (Reserved for projects related to Labor Day 2013 Flooding) – Const. \$200,000
- FY20 – TBD (Reserved for projects related to Labor Day 2013 Flooding) – Const. \$200,000
- FY21 – No Funding requested

The average useful life is 60 years; the proposed 5 year capital request is \$1,050,000.

Future Areas to be considered, but not yet prioritized:

- Carey Road (area 2) – Engineering \$42,800
- Carey Road (area 2) – Construction \$156,800
- Foxhill Rd., Canterbury Lane, South St., and X-Country (Area 10) – Eng. 41,800
- Lower Hunnewell Drainage improvements Eng. & Construction 305,000
- Foxhill Rd., Canterbury Lane, South St., and X-Country (Area 10) – Construction
- Concord St., Greendale Ave., Woodbine Cir. System (Area 4) – Eng. 100,000
- Oak St. (Area 8), Mackintosh Ave. (Areas 3 & 7), Oxbow Rd. (Area 9), West St. (Area 11)
- Fairfield St., Elmwood Rd. (Area 5)

Storm Drain System Repairs:

This program provides funding to repair failing storm drainage infrastructure within Town easements that have been discovered through investigation work. These projects will include the replacement of existing culverts that have deteriorated over time and are restricting flow. This work will eliminate flooding and capacity issues in the immediate vicinity.

The fiscal 2017 project is to replace a badly damaged 100 foot section of 18" reinforced concrete drain pipe within a Town easement adjacent to 470 South Street. This replacement includes extensive wetland consulting and permitting which is a major factor in the cost of this project.

In the May 2015 Town Meeting funded the design and wetland consulting for the South St area. The design work was initiated in the fall of 2015. Additionally, this project will provide funding over four years for the Drains division to address small projects related to the Labor Day 2013 storm drainage remediation.

Capital Project Request

Project Title: **Public Works Infrastructure Program**

Fiscal Year:

2017

FY17 – 470 South St – Const. \$80,000

TBD (Reserved for projects related to Labor Day 2013 Flooding) - \$25,000

FY18 - TBD (Reserved for projects related to Labor Day 2013 Flooding) - \$50,000

FY19 - TBD (Reserved for projects related to Labor Day 2013 Flooding) - \$50,000

FY20 – No Funding requested

FY21 – TBD (Reserved for projects related to Labor Day 2013 Flooding) - \$75,000

The proposed 5 year capital request is \$280,000.

Brooks and Culverts – Repair and Maintenance:

The severe storms of October 1996, June 1998, June 2006, July 2008 and March 2010 have resulted in numerous complaints and subsequent investigations of the Town's brooks, streams and culverts. The conditions observed were significant. It is the intention of the DPW to expend Capital Funds to address the issue of poorly draining brooks, streams, waterways and culverts throughout the Town that have been severely damaged by heavy rains/storms in the past. Flooding in March 2010 caused the failure of retaining walls, resulting in extensive erosion and silt deposits in brooks and streams. The silt has provided a medium for vegetation and affected the flow of water, and the situation has resulted in the loss of useable abutting property and flooded basements. The current conditions are beyond the means of DPW equipment and personnel. It will require a detailed investigation, a plan of recommended improvements, a design drawing and specifications, environmental permitting and bidding of construction to be overseen by the Town's Engineering Division. This will return the waterways to a condition that the DPW will be able to maintain.

The Environmental Protection Agency (EPA) is currently finalizing stronger requirements for stormwater and permitting under the NPDES permit. The Town will need to continue to demonstrate its efforts regarding cleaning and improvements to water quality of brook and culverts to avoid fines from the EPA.

FY17 – Wall repairs at various locations to be determined – Construction \$100,000.

FY18 – Culvert at Meadowbrook Rd – Construction \$100,000

FY19 – No Funding Requested

FY20 – Continued wall repair along Rosemary Brook – Construction \$100,000

FY21 – Meredith Circle– Engineering & Construction \$300,000

The proposed 5 year capital request is \$600,000

Future Projects include, but are not limited to, the following locations:

Winding River

Locust Lane

Fuller Brook

Oxbow Road

Webster & Howland Streets

Brookside Road & Forest Street

Chestnut Street & Carriage Lane

Emerson Place

Pennsylvania Avenue

Elder Road

4. Conservation Commission permitting may be required for drainage repairs, and brooks and culvert repair.

Capital Project Request

Project Title: **Town Common Historic Redesign and Beautification** Fiscal Year: **2018**
 Purpose: **Construction/Renovation** Classification: **Infrastructure** Status: **Unfunded Request from Prior CIP**
 Department: **Public Works** Funding Source: **Community Preservation Fund**
 Partners:

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	No
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	No
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	Yes
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	No
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	Yes
13. Is this a request in response to a Court, Federal, or State order?	No
14. Is this a request in response to a documented public health or safety condition?	No
15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	No
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	No
18. Will any other department be required to provide assistance in order to complete the project?	No

Primary Reason for the Request: **Obsolete/non-functioning**
 How was the Estimated Project Cost Determined: **In-House Estimate** Estimated Project Cost: **\$580,000**
 Useful Life: **Between eighteen (18) and twenty-five (25) years**
 Budget Impact: **Negligible impact on the annual operating expenses less than \$5,000**

Project Budget Elements	Prior Request	Project Budget	2018	2019	2020	2021	2022
Planning/Feasibility		\$0					
Design/Engineering		\$0					
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction		\$580,000	\$580,000				
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$0	\$580,000	\$580,000	\$0	\$0	\$0	\$0

\$0

Capital Project Request

Project Title: **Town Common Historic Redesign and Beautification**

Fiscal Year: **2018**

Project Description and Considerations

The Town is presently completing an internal design process for the Town Common. This will include improved hardscape, landscaping, amenities, tree plantings, and utility improvements that are consistent with the historic nature of the common as well as the improvements being made in the downtown streetscape improvement project.

This will include improving the landscaping with new sod, trees, and plantings. The hardscape services will be upgraded to a more low maintenance and handicapped accessible materials. The pathways and landscaping will be adjusted to become more aesthetically and functionally enhanced. There will be increased electrical and sound capacity to accommodate Town-wide events. This work will complement the new Town Hall and enhance the new "blue" tree.

4. This project may be subject to Planning Board review.

12. This project is being evaluated for eligibility for Community Preservation Funds through the category of Historic Preservation.

Capital Project Request

Project Title: **Athletic Fields Master Plan** Fiscal Year: **2021**
 Purpose: **Long Range Plan/Study** Classification: **Land** Status: **Future Request Details Incomplete**
 Department: **Park and Recreation** Funding Source: **Community Preservation Fund**
 Partners: **DPW Parks and Forestry Division**

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	No
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	No
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	No
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	No
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	Yes
13. Is this a request in response to a Court, Federal, or State order?	No
14. Is this a request in response to a documented public health or safety condition?	No
15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	No
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	No
18. Will any other department be required to provide assistance in order to complete the project?	No

Primary Reason for the Request: **Operational efficiency**
 How was the Estimated Project Cost Determined: **In-House Estimate** Estimated Project Cost: **\$75,000**
 Useful Life: **More than five (5) years but less than eight (8) years**
 Budget Impact: **Negligible impact on the annual operating expenses less than \$5,000**

Project Budget Elements	Prior Request	Project Budget	2021	2022	2023	2024	2025
Planning/Feasibility		\$75,000	\$75,000				
Design/Engineering		\$0					
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction		\$0					
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$0	\$75,000	\$75,000	\$0	\$0	\$0	\$0
\$0							

Capital Project Request

Project Title: **Athletic Fields Master Plan**

Fiscal Year: **2021**

Project Description and Considerations

The Park and Recreation Commission has been working with user groups to determine how athletic fields are being used and how best to schedule the athletic fields to provide optimal use without jeopardizing the maintenance plan. Renovations have occurred at several parks, and some school sites will be improved in upcoming years. The study would help the Commission determine whether new athletic fields are needed to accommodate the need and provide feasibility studies on possible locations for new athletic fields.

The ability for the Town to maintain current athletic facilities, along with any possible new facilities, would be included within the study.

Capital Project Request

Project Title: **Boat Launch on Charles River** Fiscal Year: **2018**
 Purpose: **Construction/Renovation** Classification: **Infrastructure** Status: **Future Request Details Incomplete**
 Department: **Park and Recreation** Funding Source: **Community Preservation Fund**
 Partners: **Town Manager, Conservation Department**

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	Yes
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	Yes
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	Yes
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	No
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	Yes
13. Is this a request in response to a Court, Federal, or State order?	No
14. Is this a request in response to a documented public health or safety condition?	No
15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	No
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	Yes
18. Will any other department be required to provide assistance in order to complete the project?	Yes

Primary Reason for the Request: **Obsolete/non-functioning**
 How was the Estimated Project Cost Determined: **In-House Estimate** Estimated Project Cost:
 Useful Life: **Between eighteen (18) and twenty-five (25) years**
 Budget Impact: **Negligible impact on the annual operating expenses less than \$5,000**

Project Budget Elements	Prior Request	Project Budget	2018	2019	2020	2021	2022
Planning/Feasibility		\$0					
Design/Engineering	\$30,000	\$0					
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction		\$0					
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$30,000	\$0	\$0	\$0	\$0	\$0	\$0
\$0							

Capital Project Request

Project Title: **Boat Launch on Charles River**

Fiscal Year: **2018**

Project Description and Considerations

The Town of Needham is adjacent to a major state resource - the Charles River. It creates about 2/3rds of the Town's border, with the City of Newton, the City of Boston, the Town of Dedham, and the Town of Dover.

CPC funds have been awarded to design an improved boat launch into the Charles River on Town-owned property on South Street, near the intersection of Dedham Avenue. There is an existing unimproved launch for canoes and kayaks, with a circular driveway and parking for 10-12 vehicles. There is pedestrian access, only, to the river.

The intention is to keep the launch in its natural setting, but create a more consistent access on a pervious path, and possibly creating the ability for vehicles to back up to the launch area with their boats.

Permits would be required from the Needham Conservation Commission and the MA DEP.

A project estimate can be provided once the designer is able to provide options and the Town chooses a scope of work.

Capital Project Request

Project Title: **Trail Improvement Project: Reservoir Trail** Fiscal Year: **2018**
 Purpose: **Construction/Renovation** Classification: **Infrastructure** Status: **Unfunded Request from Prior CIP**
 Department: Park and Recreation Funding Source: Community Preservation Fund
 Partners: Conservation

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	No
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	No
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	Yes
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	Yes
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	Yes
13. Is this a request in response to a Court, Federal, or State order?	No
14. Is this a request in response to a documented public health or safety condition?	No
15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	No
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	Yes
18. Will any other department be required to provide assistance in order to complete the project?	Yes

Primary Reason for the Request: New function or service
 How was the Estimated Project Cost Determined: Hired Consultant Estimated Project Cost: \$1,200,000
 Useful Life: More than twenty-five (25) years
 Budget Impact: Negligible impact on the annual operating expenses less than \$5,000

Project Budget Elements	Prior Request	Project Budget	2018	2019	2020	2021	2022
Planning/Feasibility		\$0					
Design/Engineering	\$85,000	\$0					
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction		\$1,200,000	\$1,200,000				
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$85,000	\$1,200,000	\$1,200,000	\$0	\$0	\$0	\$0

\$0

Capital Project Request

Project Title: **Trail Improvement Project: Reservoir Trail**

Fiscal Year: **2018**

Project Description and Considerations

Funding was received in FY2014 for the design of the Reservoir Trail project, through CPA funds and the contract for the design work was awarded in October 2014. As this is written, the design is well underway, but not complete. The consultant has prepared the cost estimate, based on the current design and other similar projects which are currently under construction, within the Town of Needham.

This request is for the construction 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. The proposal dovetails nicely with the construction of the Public Services Administration Building and the associated improvements to the parcel on Dedham Avenue. Furthermore, as Needham does not currently have a handicapped accessible trail, this project would also provide a unique recreational opportunity for those with mobility challenges. In addition to an accessible fishing dock, the conceptual design incorporates the closure of two decommissioned water supply wells. By incorporating the well closures, the project will address two separate goals and, hopefully, realize environmental benefits and cost savings.

In 1890, the Town of Needham acquired the property including and surrounding the Needham Reservoir for water supply purposes. Groundwater extraction wells operated on the property until the 1940's and the reservoir was decommissioned as a water supply source in 1995. The property is under the jurisdiction of the Board of Selectmen and the water supply use has not changed since the property was purchased. What has changed is that pedestrian use of the property – primarily by nearby residents and by employees from the abutting Department of Public Works – has increased. While an ad hoc, dirt road (constructed decades ago to provide access to the wells) exists along the northern edge of the reservoir, the road is eroding in places and is impassible during wet conditions in others. The remainder of the reservoir perimeter (beyond the last well) is used less frequently; however, those who do walk the southerly portion of the property have blazed their own, inconsistent routes through and over existing shrubs and herbaceous plants in an effort to keep their feet dry. The proposed trail upgrades will significantly improve public property that is NOT a building or infrastructure.

Additionally, some direct abutters to the property have constructed their own "paths" directly to the water's edge.

One reason to construct 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 keep pedestrians – who cannot reasonably be excluded from using this property – 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 outdated access drive with a solid, non-erodible surface will decrease the potential sediment loads to both the surrounding wetlands and the reservoir. The trail will also provide opportunities for public education about the history of the reservoir and the natural environment within which it exists.

In previous CIP forms, this project also included considerations for funding of the "Ridge Hill Loop Construction." This project was completed separately in 2015 through the Student Conservation Association project, funded by CPC. As such, this component is no longer included in this request.

The project will require permitting under the Massachusetts Wetlands Protection Act and the Needham Wetlands Protection Bylaw through a filing with the Needham Conservation Commission. Additionally, the project will require an amendment to an existing Special Permit issued for the Public Services Administration Building (PSAB) through a filing with the Needham Planning Board. The project also may require permitting through the Massachusetts Office of Dam Safety.

If funded and constructed, the trail will require regular maintenance, anticipated to be undertaken by the Needham Parks and Forestry Division. These maintenance activities may require increases in the annual budget of the Division.

Capital Project Request

Project Title: **Trail Improvement Project: Reservoir Trail**

Fiscal Year:

2018

Supplemental Information

The current cost estimate of \$1,200,000 includes all components of the future trail, including some elements that are likely to be funded from non-CPC sources. The following is a breakdown of project elements and potential separate sources of funding:

1. Trail Amenities (fishing platforms with rails, trail kiosks, benches, rope walk for the visually impaired, braille signage, interpretive panels, wildlife habitat features) – public/private grants (\$60,000 estimate)
2. Parking and Walkway Improvements at PSAB (expansion of up to 10 parking spaces and upgrading of existing walkways to meet accessibility requirements) – DPW budget (\$60,000 estimate)
3. Well Closure – Water & Sewer Budget (\$50,000 estimate)

It should be noted that the cost estimate of \$1,200,000 is significantly higher than previous cost estimates that were in the range of \$515,000. The primary reason for the increased cost is the permitting requirement (emanating from the Massachusetts Department of Environmental Protection) that all trail construction within wetland resources be constructed using helical pile methods to avoid and/or minimize wetland impacts.

An Initial Eligibility Project Application will be filed with the Community Preservation Committee to obtain funding for eligible portions of the project.

The completion of the project is anticipated to be a collaboration of numerous departments, including Park & Recreation, Conservation, and the Department of Public Works.

Capital Project Request

Project Title: **Trail Improvement: Rosemary Camp Property Trail** Fiscal Year: **2018**
 Purpose: **Construction/Renovation** Classification: **Land** Status: **Unfunded Request from Prior CIP**
 Department: **Park and Recreation** Funding Source: **Community Preservation Fund**
 Partners: **Conservation Department**

<u>Parameters</u>	<u>Response</u>
1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	No
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	No
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	Yes
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	No
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	Yes
13. Is this a request in response to a Court, Federal, or State order?	No
14. Is this a request in response to a documented public health or safety condition?	No
15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	No
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	Yes
18. Will any other department be required to provide assistance in order to complete the project?	Yes

Primary Reason for the Request: **Scheduled replacement**
 How was the Estimated Project Cost Determined: **Hired Consultant** Estimated Project Cost: **\$174,700**
 Useful Life: **Between twelve (12) and eighteen (18) years**
 Budget Impact: **Negligible impact on the annual operating expenses less than \$5,000**

Project Budget Elements	Prior Request	Project Budget	2018	2019	2020	2021	2022
Planning/Feasibility		\$9,200	\$9,200				
Design/Engineering		\$67,000		\$67,000			
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction		\$98,500			\$98,500		
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$0	\$174,700	\$9,200	\$67,000	\$98,500	\$0	\$0
\$0							

Capital Project Request

Project Title: **Trail Improvement: Rosemary Camp Property Trail**

Fiscal Year: **2018**

Project Description and Considerations

The Trails Master Plan has outlined several projects, and this is one of the major improvement projects that is being moved forward for funding. The original estimate was developed in 2008 and updated by the consultant in September 2012. A 5% increase has been added in subsequent years.

The trail system that begins in the parking lot at Rosemary Pool and extends through the camp property and over to Nehoiden Street is used on a daily basis by residents in the area. The beginning section is the most urgent need for restoration, but there are other areas of concern, particularly along the steep stretch adjacent to the lake. Some projects would be completed by volunteers, so that only the large construction projects will need to be performed by a contractor. Under the revised legislation, this project is now eligible for CPA funding. A pre-feasibility study was added to insure that the original trail and any other options have been fully vetted. Permitting costs are included in the design phase.

Park and Recreation has a separate project for the Rosemary Pool complex being requested, so this project would be coordinated with any future renovations at Rosemary Lake and Pool. As the trail head is within the pool parking lot, some improvements would need to be completed under the Pool project. The Pool Complex was partially funded with federal Land and Water Conservation funds, and access to the property for residents is an important component to the rules related to funding. It is the goal of the Park and Recreation Commission to have community access to all public parcels surrounding Rosemary Lake.

Permitting would be required by Conservation Commission and MA DEP.

Trail projects are a collaboration between Conservation and Park and Recreation departments.

Capital Project Request

Project Title: **Sewer Main Extensions in Zone I and II** Fiscal Year: **2017**
 Purpose: **Construction/Renovation** Classification: **Infrastructure** Status: **Unfunded Request from Prior CIP**
 Department: **Public Works** Funding Source: **Enterprise Fund**
 Partners:

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	No
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	No
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	Yes
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	No
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	No
13. Is this a request in response to a Court, Federal, or State order?	No
14. Is this a request in response to a documented public health or safety condition?	Yes
15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	No
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	No
18. Will any other department be required to provide assistance in order to complete the project?	No

Primary Reason for the Request: **Public/employee health or safety**
 How was the Estimated Project Cost Determined: **In-House Estimate** Estimated Project Cost: **\$566,260**
 Useful Life: **More than twenty-five (25) years**
 Budget Impact: **Negligible impact on the annual operating expenses less than \$5,000**

Project Budget Elements	Prior Request	Project Budget	2017	2018	2019	2020	2021
Planning/Feasibility		\$0					
Design/Engineering	\$73,860	\$73,860	\$73,860				
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction	\$492,400	\$492,400		\$492,400			
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$566,260	\$566,260	\$73,860	\$492,400	\$0	\$0	\$0
\$0							

Capital Project Request

Project Title: **Sewer Main Extensions in Zone I and II**

Fiscal Year: **2017**

Project Description and Considerations

There are eight homes in Needham that need to be prioritized for sewer service connection because they are within Massachusetts Department of Environmental Protection's (MassDEP) Zone II areas. These homes are being looked at as part of a future sewer main extension/service connections project.

The Zone I and Zone II aquifer protection area for the Charles River Well No. 1 encompasses an area that includes private septic systems. Zone I, as defined by MassDEP includes land within the protective four hundred (400) foot radius around an existing or potential public water supply well or well field. Zone II includes the area of an aquifer that, given the most severe pumping and recharge conditions that can be realistically anticipated, would potentially be affected by nearby septic systems. It is bounded by the groundwater divides which result from pumping the well and by the contact of the aquifer with less permeable materials such as till or bedrock. (Note: these private systems predate the Zone I and II requirements by MassDEP and Needham Zoning Bylaws, Section 3.4.6 (b)).

All three of Needham's wells are located in an area that is vulnerable to contamination from nearby septic systems, and extending the sewer main to allow access to homes within Zones I & II will greatly reduce this risk.

The sewer main ends at 827 Charles River St, the sewer main extension would run from 828 Charles River St to Winding River Road and extend 712 feet up Winding River Rd. The new sewer main will pick up 5 homes that are on septic, 4 of which are on Winding River Rd. These improvements would be subject to a betterment fee. This may also include the installation of an additional prefabricated sewer pump station for these locations.

Monies requested are based on 712 linear feet of 8" gravity sewer pipe installation at a cost of \$200 per linear foot, which includes the installation of five sewer manholes; the cost estimate for this station based on other similar projects is \$350,000; and design and engineering costs of 15% of total project. It is feasible that another option for this project exists in which gravity sewer may be run through easements, which may result in an overall decrease in the cost of this project.

FY17 Engineering & Design	\$73,860
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FY18 Construction	\$492,400
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Additional operating budget funds will be required after this project is constructed in order to operate the new main which include electrical and maintenance costs of the pumps, mechanicals seals, valves, wet cleanings, and other maintenance costs. These costs are not anticipated to exceed \$1,000 in 2015 dollars.

4. Conservation Commission permitting may be required for site work; Board of Health permitting for septic system abandonment.

Capital Project Request

Project Title: **Sewer Main Replacement** Fiscal Year: **2020**
 Purpose: **Construction/Renovation** Classification: **Infrastructure** Status: **Revised Request from the Prior CIP**
 Department: **Public Works** Funding Source: **Enterprise Fund**
 Partners:

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	No
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	No
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	Yes
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	No
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	No
13. Is this a request in response to a Court, Federal, or State order?	No
14. Is this a request in response to a documented public health or safety condition?	No
15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	No
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	No
18. Will any other department be required to provide assistance in order to complete the project?	No

Primary Reason for the Request: **Obsolete/non-functioning**
 How was the Estimated Project Cost Determined: **In-House Estimate** Estimated Project Cost: **\$600,000**
 Useful Life: **More than twenty-five (25) years**
 Budget Impact: **Negligible impact on the annual operating expenses less than \$5,000**

Project Budget Elements	Prior Request	Project Budget	2020	2021	2022	2023	2024
Planning/Feasibility		\$0					
Design/Engineering		\$100,000	\$100,000				
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction		\$500,000		\$500,000			
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$0	\$600,000	\$100,000	\$500,000	\$0	\$0	\$0
\$0							

Capital Project Request

Project Title: **Sewer Main Replacement**

Fiscal Year: **2020**

Project Description and Considerations

The Town of Needham is in the final phases of completing a Facilities Master Plan. This plan has a building located on Parcel 74 on Greendale Ave. In order to facilitate the construction of a building on this property, a new or relined sewer line will be necessary. Additionally, the existing sewer line has been determined to be in the process of deteriorating and in need of replacement.

This request is for replacing or relining 1,209 feet of 18 inch reinforced concrete pipe gravity sewer main running through Town property in the right of way from Greendale Ave near Cheney Street towards Route 128. This is the total length of pipe that runs through the right of way to the first man hole on Rt. 128.

Cost Estimate:

FY 2020 - \$100,000 Engineering

FY 2021 - \$500,000 Construction

4. MWRA permitting may be required for repair work.

Capital Project Request

Project Title: **Sewer Pump Station Improvements/Replacement** Fiscal Year: **2018**
 Purpose: **Construction/Renovation** Classification: **Infrastructure** Status: **Unfunded Request from Prior CIP**
 Department: **Public Works** Funding Source: **General Fund**
 Partners:

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	No
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	No
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	Yes
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	No
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	No
13. Is this a request in response to a Court, Federal, or State order?	No
14. Is this a request in response to a documented public health or safety condition?	No
15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	No
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	No
18. Will any other department be required to provide assistance in order to complete the project?	No

Primary Reason for the Request: **Operational efficiency**
 How was the Estimated Project Cost Determined: **In-House Estimate** Estimated Project Cost: **\$4,935,500**
 Useful Life: **More than twenty-five (25) years**
 Budget Impact: **Negligible impact on the annual operating expenses less than \$5,000**

Project Budget Elements	Prior Request	Project Budget	2018	2019	2020	2021	2022
Planning/Feasibility		\$0					
Design/Engineering	\$265,000	\$531,000	\$91,000		\$95,000	\$345,000	
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction	\$1,504,500	\$4,404,500	\$499,000		\$535,000		\$3,370,500
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$1,769,500	\$4,935,500	\$590,000	\$0	\$630,000	\$345,000	\$3,370,500
\$0							

Capital Project Request

Project Title: **Sewer Pump Station Improvements/Replacement**

Fiscal Year: **2018**

Project Description and Considerations

As part of the Wastewater System Master Plan, several of the wastewater pumping stations were evaluated to assess their physical condition and capacity, and to evaluate current and future flow projections. The Master Plan recommended that at least 7 of the 9 stations be upgraded.

Canister pump stations at Lake Drive, Cooks Bridge (Milo Circle), and Alden Rd are each either at or beyond their design life. Constant maintenance and emergency shutoffs occur more frequently and require greater amounts of personnel time and emergency funds to keep running.

Alden Road Pump Station was originally constructed in the mid- 1950's as a pneumatic ejection station, and converted in the 1970's to a built in place wet well/dry well type station with vertical flooded suction sewage pumps. There are no alarms with the exception of a local red light alarm for high wet well level. The pump's outdated electrical control panels are located below grade level adjacent to the pumps, which if flooded, poses a severe threat to personnel as well as equipment. The station has heat, but no dehumidifier or ventilation. Problems have also occurred with roots and rags clogging pumps.

FY 18 Alden Rd – Engineering, Design, & Construction	\$590,000
FY 19 No Funding Requested	\$0
FY 20 Lake Drive – Engineering, Design & Construction	\$630,000
FY 21 Cooks Bridge - Engineering & Design	\$345,000
FY 22 Cooks Bridge - Construction	\$3,370,500

4. Conservation Commission permitting may be required for site work.

Capital Project Request

Project Title: **Sewer Service Connections** Fiscal Year: **2018**
 Purpose: **Construction/Renovation** Classification: **Infrastructure** Status: **Unfunded Request from Prior CIP**
 Department: **Public Works** Funding Source: **Enterprise Fund**
 Partners:

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	No
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	No
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	No
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	No
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	No
13. Is this a request in response to a Court, Federal, or State order?	No
14. Is this a request in response to a documented public health or safety condition?	No
15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	No
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	No
18. Will any other department be required to provide assistance in order to complete the project?	No

Primary Reason for the Request: **Operational efficiency**
 How was the Estimated Project Cost Determined: **In-House Estimate** Estimated Project Cost: **\$200,000**
 Useful Life: **More than twenty-five (25) years**
 Budget Impact: **Negligible impact on the annual operating expenses less than \$5,000**

Project Budget Elements	Prior Request	Project Budget	2018	2019	2020	2021	2022
Planning/Feasibility		\$0					
Design/Engineering		\$0					
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction	\$250,000	\$200,000	\$50,000	\$50,000	\$50,000	\$50,000	
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$250,000	\$200,000	\$50,000	\$50,000	\$50,000	\$50,000	\$0

\$0

Capital Project Request

Project Title: **Sewer Service Connections**

Fiscal Year: **2018**

Project Description and Considerations

There are 108 homes with access to sewer that are not connected to the Sewer System because they have chosen not to. The purpose of this request is to provide the lateral sewer line from the sewer main to the property line so that the homeowner can connect should they choose to or should their septic system fail. The lateral sewer line is to be added prior (at least one year) to a road reconstruction/paving project. The cost for these service installations are typically not included in road construction estimates. In the case of Chapter 90 Projects, these are not considered as a reimbursement eligible expense. These expenses are included in local road reconstruction estimates. There is a corresponding request for water service connections.

There is no funding request for FY 2017 so the division can reevaluate the intention of this article. The funding for this article was initially requested for the installation of sewer lateral lines in roads that were anticipated to be renovated in the near future, so should the homeowner choose to convert to Town sewer, the lateral would be available. The reality has been that when homeowners have decided to go onto Town sewer it has been when their house has been sold, and with the high number of tear downs, the location of the sewer laterals the Town has installed are no longer beneficial for the new house's layout.

Past projects

2013 – installed 14 new sewer laterals (408.5' of pipe)

2014 – no appropriation was requested

2015 - installed sewer laterals as part of the Great Plain Ave sewer replacement

Capital Project Request

Project Title: **Birds Hill Water Tank Improvements** Fiscal Year: **2019**
 Purpose: **Design/Engineering** Classification: **Infrastructure** Status: **New Request**
 Department: **Public Facilities** Funding Source: **Enterprise Fund**
 Partners:

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	No
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	No
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	No
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	No
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	No
13. Is this a request in response to a Court, Federal, or State order?	No
14. Is this a request in response to a documented public health or safety condition?	No
15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	Yes
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	No
18. Will any other department be required to provide assistance in order to complete the project?	No

Primary Reason for the Request: **Public/employee health or safety**
 How was the Estimated Project Cost Determined: **Industry References** Estimated Project Cost: **\$200,000**
 Useful Life: **Between eighteen (18) and twenty-five (25) years**
 Budget Impact: **Negligible impact on the annual operating expenses less than \$5,000**

Project Budget Elements	Prior Request	Project Budget	2019	2020	2021	2022	2023
Planning/Feasibility		\$0					
Design/Engineering		\$25,000	\$25,000				
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction		\$175,000	\$175,000				
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$0	\$200,000	\$200,000	\$0	\$0	\$0	\$0
\$0							

Capital Project Request

Project Title: **Birds Hill Water Tank Improvements**

Fiscal Year: **2019**

Project Description and Considerations

The purpose of the water tank located at Birds Hill is to maintain proper operating system pressure of the Town's municipal water distribution system. The method used for filling the tank is through one central pipe at the bottom of the tank. This is also how the tank is drained. The movement of water is all predominately at the bottom of the tank. This tank has a 100ft diameter foundation and it is 45ft in elevation. The intention of this request is to install a mixing valve that will move water throughout the tank. This movement will assist in maintaining chlorine levels inside the tank. This will assure improved water quality.

16. The mixing valve will permanently installed at the Birds Hill Tank.

Capital Project Request

Project Title: **Fire Flow Improvements - Feasibility Study** Fiscal Year: **2017**
 Purpose: **Design/Engineering** Classification: **Infrastructure** Status: **Unfunded Request from Prior CIP**
 Department: **Public Works** Funding Source: **Enterprise Fund**
 Partners:

Parameters

Response

- | | |
|--|----|
| 1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included? | No |
| 2. Are there recommendations or costs identified by other departments which are NOT factored into the request? | No |
| 3. Does the project support activities to produce new revenue for the Town? | No |
| 4. Does this project require any permitting by any Town or State agency? | No |
| 5. If funded, will additional permanent staff be required? | No |
| 6. If funded, will the operating budget need to be increased to cover operating expenses? | No |
| 7. If funded, will this project increase the operating expense for any other department? | No |
| 8. If funded, will this project lower the requesting Department's operating costs? | No |
| 9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted? | No |
| 10. If the project is NOT funded, will current Town revenue be reduced? | No |
| 11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset? | No |
| 12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)? | No |
| 13. Is this a request in response to a Court, Federal, or State order? | No |
| 14. Is this a request in response to a documented public health or safety condition? | No |
| 15. Is this a request to improve or make repairs to extend the useful life of a building? | No |
| 16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use? | No |
| 17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure? | No |
| 18. Will any other department be required to provide assistance in order to complete the project? | No |

Primary Reason for the Request: **Operational efficiency**

How was the Estimated Project Cost Determined: **In-House Estimate**

Estimated Project Cost: **\$20,000**

Useful Life: **More than twenty-five (25) years**

Budget Impact: **Negligible impact on the annual operating expenses less than \$5,000**

Project Budget Elements	Prior Request	Project Budget	2017	2018	2019	2020	2021
Planning/Feasibility	\$107,200	\$20,000	\$20,000				
Design/Engineering		\$0					
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction		\$0					
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$107,200	\$20,000	\$20,000	\$0	\$0	\$0	\$0
\$0							

Capital Project Request

Project Title: **Fire Flow Improvements - Feasibility Study**

Fiscal Year: **2017**

Project Description and Considerations

Description and Justification

The Water System Master Plan has identified fire flow adequacy as an improvement for high priority action.

A fire flow adequacy analysis was conducted under maximum daily demand that determined the system is unable to meet the minimum 20 pounds per square inch of pressure (psi) in the higher elevations of Town: Tower Hill and Birds Hill Areas. This will address water pressure concerns in high elevation areas during high demand that have been raised by residents in these areas.

In order to meet the minimum 20 psi, the DPW is requesting funding for a feasibility study and engineering cost analysis to analyze and propose a cost-effective solution to the low pressure areas. The goal is to create a high pressure zone in those two areas, potentially supplied by water booster stations.

FY17- Bird's Hill Tank high service area & Dunster Road Tank high service area / feasibility study - \$ 20,000

Capital Project Request

Project Title: **Fire Flow Improvements - Design & Construction** Fiscal Year: **2018**
 Purpose: **Construction/Renovation** Classification: **Infrastructure** Status: **Future Request Details Incomplete**
 Department: **Public Works** Funding Source: **Enterprise Fund**
 Partners:

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are **NOT** included?
2. Are there recommendations or costs identified by other departments which are **NOT** factored into the request?
3. Does the project support activities to produce new revenue for the Town?
4. Does this project require any permitting by any Town or State agency?
5. If funded, will additional permanent staff be required?
6. If funded, will the operating budget need to be increased to cover operating expenses?
7. If funded, will this project increase the operating expense for any other department?
8. If funded, will this project lower the requesting Department's operating costs?
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is **NOT** already budgeted?
10. If the project is **NOT** funded, will current Town revenue be reduced?
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?
13. Is this a request in response to a Court, Federal, or State order?
14. Is this a request in response to a documented public health or safety condition?
15. Is this a request to improve or make repairs to extend the useful life of a building?
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?
17. Is this a request to repair or otherwise improve public property which is **NOT** a building or infrastructure?
18. Will any other department be required to provide assistance in order to complete the project?

Primary Reason for the Request: **Operational efficiency**

How was the Estimated Project Cost Determined: **In-House Estimate**

Estimated Project Cost: **\$2,743,000**

Useful Life: **More than twenty-five (25) years**

Budget Impact:

Project Budget Elements	Prior Request	Project Budget	2018	2019	2020	2021	2022
Planning/Feasibility		\$0					
Design/Engineering		\$504,000	\$504,000				
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction		\$2,239,000		\$2,239,000			
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$0	\$2,743,000	\$504,000	\$2,239,000	\$0	\$0	\$0
\$0							

Capital Project Request

Project Title: **Fire Flow Improvements - Design & Construction**

Fiscal Year: **2018**

Project Description and Considerations

The Department is requesting a feasibility study to investigate possible options to increase water pressure in the Tower Hill and Birds Hill areas. The goal is to create a high pressure zone in those two areas, potentially supplied by water booster stations. The FY18 and FY19 estimates provided are based upon a 1999 water system report and may be altered pending the completion of a feasibility study.

FY18 - Bird's Hill Tank high service area & Dunster Road Tank high service area / engineering, design - \$ 504,000

FY19 - Bird's Hill Tank high service area & Dunster Road Tank high service area / construction - \$ 2,239,000

Capital Project Request

Project Title: **Water Main Replacement** Fiscal Year: **2018**
 Purpose: **Construction/Renovation** Classification: **Infrastructure** Status: **Unfunded Request from Prior CIP**
 Department: **Public Works** Funding Source: **Enterprise Fund**
 Partners:

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	No
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	No
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	No
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	No
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	No
13. Is this a request in response to a Court, Federal, or State order?	No
14. Is this a request in response to a documented public health or safety condition?	No
15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	No
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	No
18. Will any other department be required to provide assistance in order to complete the project?	No

Primary Reason for the Request: **Scheduled replacement**
 How was the Estimated Project Cost Determined: **In-House Estimate** Estimated Project Cost: **\$4,400,000**
 Useful Life: **More than twenty-five (25) years**
 Budget Impact: **Negligible impact on the annual operating expenses less than \$5,000**

Project Budget Elements	Prior Request	Project Budget	2018	2019	2020	2021	2022
Planning/Feasibility		\$0					
Design/Engineering	\$400,000	\$400,000	\$400,000				
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction	\$4,000,000	\$4,000,000			\$4,000,000		
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$4,400,000	\$4,400,000	\$400,000	\$0	\$4,000,000	\$0	\$0

\$0

Capital Project Request

Project Title: **Water Main Replacement**

Fiscal Year: **2018**

Project Description and Considerations

This request is to replace a total of 11,500 linear feet of 14" water main. The existing water line dates from 1936-1939 and is cast iron with bitumastic or coal tar liner. The water quality in areas serviced by this line is a concern as the lining of these pipes breaks down over time causing discoloration in the water. In 2008, the Town began addressing areas served by this type of piping which at the time was approximately 19,000 linear feet extending from Charles River Street, to Pine Street, to Central Avenue, to Marked Tree Road and a section between Oak Street and Chestnut Street, to School Street.

In 2008, the 14" water main was relined from the Charles River Water Treatment Facility to Grove Street. In 2010, the second phase of this project replaced the 14" water main with a new 16" water main extending from Grove Street to Central Avenue.

This project includes replacing the pipe and reconstructing the road.

FY 2018

Funding is proposed for the design of the remaining 11,500 linear feet of water main to be replaced from the intersection of Pine Street to Marked Tree to Oak St, and Maple St.

Engineering and Design: \$400,000

FY 2020

Funding is proposed for the construction of the remaining water main.

Construction: \$4,000,000

State Revolving Fund Funding may be available for this project and the Public Works Department will submit an application.

Capital Project Request

Project Title: **Water Service Connections** Fiscal Year: **2017**
 Purpose: **Construction/Renovation** Classification: **Infrastructure** Status: **Unfunded Request from Prior CIP**
 Department: **Public Works** Funding Source: **Enterprise Fund**
 Partners:

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	No
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	No
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	No
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	No
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	No
13. Is this a request in response to a Court, Federal, or State order?	No
14. Is this a request in response to a documented public health or safety condition?	Yes
15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	No
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	No
18. Will any other department be required to provide assistance in order to complete the project?	No

Primary Reason for the Request: **Obsolete/non-functioning**
 How was the Estimated Project Cost Determined: **In-House Estimate** Estimated Project Cost: **\$1,000,000**
 Useful Life:
 Budget Impact:

Project Budget Elements	Prior Request	Project Budget	2017	2018	2019	2020	2021
Planning/Feasibility		\$0					
Design/Engineering		\$0					
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction	\$1,000,000	\$1,000,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$1,000,000	\$1,000,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000

\$0

Capital Project Request

Project Title: **Water Service Connections**

Fiscal Year: **2017**

Project Description and Considerations

The primary purpose of this program is to remove old iron pipe water services that may contain lead from the water distribution system. Old water services are to be replaced prior (at least one year) to a road reconstruction/paving project. If this project is not funded it leaves an element of the subsurface infrastructure susceptible to failure before the useful life of the reconstructed roadway has been realized. Prior appropriations are currently under contract with water service connection replacements estimated to be one and a half years ahead of the road resurfacing program. The FY2017 funding will provide approximately one year's value of water service replacements, which will fall in line with the road resurfacing program schedule. System wide, there are approximately 1,100 services that still need to be replaced in the system.

<u>Year</u>	<u>Number of Services Replaced</u>
CY 2007	126
CY 2008	170
CY 2009	174
CY 2010	17
CY 2011	145
CY 2012	102
CY 2013	200
CY 2014	152

Capital Project Request

Project Title: **Water Distribution Study** Fiscal Year: **2020**
 Purpose: **Design/Engineering** Classification: **Infrastructure** Status: **Unfunded Request from Prior CIP**
 Department: **Public Works** Funding Source: **Enterprise Fund**
 Partners:

Parameters

Response

1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included?	No
2. Are there recommendations or costs identified by other departments which are NOT factored into the request?	No
3. Does the project support activities to produce new revenue for the Town?	No
4. Does this project require any permitting by any Town or State agency?	No
5. If funded, will additional permanent staff be required?	No
6. If funded, will the operating budget need to be increased to cover operating expenses?	No
7. If funded, will this project increase the operating expense for any other department?	No
8. If funded, will this project lower the requesting Department's operating costs?	No
9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted?	No
10. If the project is NOT funded, will current Town revenue be reduced?	No
11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset?	No
12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)?	No
13. Is this a request in response to a Court, Federal, or State order?	No
14. Is this a request in response to a documented public health or safety condition?	No
15. Is this a request to improve or make repairs to extend the useful life of a building?	No
16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use?	No
17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure?	No
18. Will any other department be required to provide assistance in order to complete the project?	No

Primary Reason for the Request: **Public/employee health or safety**
 How was the Estimated Project Cost Determined: **In-House Estimate** Estimated Project Cost: **\$200,000**
 Useful Life:
 Budget Impact:

Project Budget Elements	Prior Request	Project Budget	2020	2021	2022	2023	2024
Planning/Feasibility		\$0					
Design/Engineering	\$200,000	\$200,000	\$200,000				
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction		\$0					
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$200,000	\$200,000	\$200,000	\$0	\$0	\$0	\$0
\$0							

Capital Project Request

Project Title: **Water Distribution Study**

Fiscal Year: **2020**

Project Description and Considerations

This study will provide for an analysis of the Town's water infrastructure. This is partially driven by recommendations that were made in the current master plan that was conducted in 1998, which is coming to its completion of recommendations. Since the last time that the Town studied its water infrastructure, Needham Crossing, formally the 128 Business Park, has significantly changed with more dense development and different industries and uses.

This request is for developing a new 20 year master plan that will include the following:

- Conduct a thorough asset inventory of the system and conduct a hydraulic analysis.
- Prioritize the rehabilitation and replacement of the asset information related to condition, performance, replacement values, failure modes, probability of failure, and criticality.
- Develop a new 20 year forecast for projected growth.
- Developing an annual estimate of needed reserves and an annual budget.
- Implement the asset management plan.
- Review and revise the current asset management plan.

The purpose of this water distribution study is to evaluate the existing water distribution system and determine the following:

- Identify any deficiencies that exist and determine what repairs should be made to ensure that the system can provide the required flow and pressure.
- Using growth projections from the Town's planning and zoning maps, estimate where and when future growth will occur.
- Using these growth projections, analyze the water system and determine the capacity of the water source, storage, and distribution system.
- Once the capacity is determined, decisions can be made as to when aspects of the water system should be further developed, upsized, or replaced.

Capital Project Request

Project Title: **Water System Rehabilitation** Fiscal Year: **2017**
 Purpose: **Construction/Renovation** Classification: **Infrastructure** Status: **Unfunded Request from Prior CIP**
 Department: **Public Works** Funding Source: **Enterprise Fund**
 Partners:

Parameters

Response

- | | |
|--|-----|
| 1. Are there any costs to bid, design, construct, purchase, install, implement, or otherwise complete the project which are NOT included? | No |
| 2. Are there recommendations or costs identified by other departments which are NOT factored into the request? | No |
| 3. Does the project support activities to produce new revenue for the Town? | No |
| 4. Does this project require any permitting by any Town or State agency? | Yes |
| 5. If funded, will additional permanent staff be required? | No |
| 6. If funded, will the operating budget need to be increased to cover operating expenses? | No |
| 7. If funded, will this project increase the operating expense for any other department? | No |
| 8. If funded, will this project lower the requesting Department's operating costs? | No |
| 9. If funded, will this project require ongoing assistance from vendors at an additional expense to the Town which is NOT already budgeted? | No |
| 10. If the project is NOT funded, will current Town revenue be reduced? | No |
| 11. Is specialized training or annual licensing required that the Town will need to pay in order to use the asset? | No |
| 12. Is this a project for which an Initial Eligibility Project Application can be filed with the Community Preservation Committee (CPC)? | No |
| 13. Is this a request in response to a Court, Federal, or State order? | No |
| 14. Is this a request in response to a documented public health or safety condition? | No |
| 15. Is this a request to improve or make repairs to extend the useful life of a building? | No |
| 16. Is this a request to purchase apparatus/equipment that is intended to be permanently installed at the location of its use? | No |
| 17. Is this a request to repair or otherwise improve public property which is NOT a building or infrastructure? | No |
| 18. Will any other department be required to provide assistance in order to complete the project? | No |

Primary Reason for the Request: **Scheduled replacement**

How was the Estimated Project Cost Determined: **In-House Estimate**

Estimated Project Cost: **\$1,392,250**

Useful Life: **More than twenty-five (25) years**

Budget Impact:

Project Budget Elements	Prior Request	Project Budget	2017	2018	2019	2020	2021
Planning/Feasibility		\$0					
Design/Engineering	\$156,900	\$215,500	\$82,000		\$36,500		\$97,000
Land/ROW Acquisition		\$0					
Site Preparation		\$0					
Construction	\$1,997,250	\$1,176,750		\$801,750		\$375,000	
Construction Management		\$0					
Equipment		\$0					
Furniture, Fixtures, and Equipment		\$0					
Technology Hardware/Software		\$0					
Other Expenses		\$0					
TOTAL	\$2,154,150	\$1,392,250	\$82,000	\$801,750	\$36,500	\$375,000	\$97,000
\$0							

Capital Project Request

Project Title: **Water System Rehabilitation**

Fiscal Year: **2017**

Project Description and Considerations

Under the Water System Rehabilitation Program, the Town’s water infrastructure is continually analyzed to assess functionality and performance, and to identify areas in need of repair. Water infrastructure requires ongoing attention and periodic replacement, and portions of the Town’s water infrastructure are 75+ years old and approaching the end their useful life. A diligent rehabilitation program encompassing maintenance, repair, and replacement ensures a continual supply of water to the public. The Department of Public Works prioritizes replacement of water pipes based upon pipe condition, water break history, and adequacy of water flow to fire hydrants.

Country Way may require a permit from the Conservation Commission.

FY17

Alfreton Rd./ Highland Ave. to Webster St. New 8” (500 lf) - Eng. & Design	\$40,000
Bennington St. / High St. to Concord St. New 8” (650 lf) - Eng. & Design	
Country Way/Replace (1,200 lf) of 8” main - Eng. & Design	\$42,000

FY18

Alfreton Rd./Highland Ave to Webster (145 unlined) – Construction	\$399,750
Bennington St./High St. to Concord St. (unlined) – Construction	
Country Way/ Replace (1,200 lf) of 8” main (unlined) -Construction	\$402,000

FY19

Thorpe Rd./Webster St. to End New 8” (330lf) – Eng. & Design	\$36,500
Mills Rd./ Sachem Rd. to Davenport Ave. New 8” (500lf) – Eng. & Design	
Mayo Ave. Harris Ave to Great Plain Ave New 8” (1060lf) – Eng. & Design	

FY20

Thorpe Rd./ Mills Rd./ Mayo Ave. (unlined) – Construction	\$375,000
Mills Rd./ Sachem Rd. to Davenport Ave. New 8” (500lf) – Construction	
Mayo Ave. Harris Ave to Great Plain Ave New 8” (1060lf) (unlined)– Construction	

FY21

Kingsbury St. / Oakland Ave. to Webster St. 8” (1,500lf) – Eng. & Design	\$97,000
Oakland Ave. / May St. to Highland Ave. 8” (1,1,00lf)- Eng. & Design	

Capital Project Request

Project Title: **Water System Rehabilitation**

Fiscal Year: **2017**

Supplemental Information

Future Projects after FY21:

FY22

Kingsbury St. / Oakland Ave. to Webster St. 8" (1,500lf) – Construction	\$443,500
Oakland Ave. / May St. to Highland Ave. 8" (1,1,00lf) (unlined) - Construction	

Fenton Rd. / West St. to Pershing Rd. - Eng. & Design
Greenough St. / Pine Grove St. to Avery St. – Eng. & Design
Pine Grove St. Hillside Ave to existing 8" - Eng. & Design
High St./Webster St to Greendale Ave 1,400' of 8" – Eng. & Design
Tower Ave./Greendale Ave to Lexington Ave. 800' of 12" – Eng. & Design

4. Conservation Commission permitting may be required for site work.