

**TOWN OF SPRINGFIELD
WATER SYSTEM
CAPITAL PLAN
FY 22 – FY 26
May 2021**

INTRODUCTION

This Plan includes recommended improvements using multiple sources of funds for water system improvement projects of a range of sizes. It is separated into projects that are included in:

- Annual Water Operations Budget
- Capital Plan
- Larger water system improvement projects using Local and/or State/Federal Funding Sources

Some of this information is built off the Long Range Plan Update completed in December 2018 and sections of this document will be referenced here.

ANNUAL OPERATIONS BUDGET

For the annual operations budget, the following improvements are included for the distribution system.

Fire Hydrant Replacements

From the Long Range Plan, it was recommended that up to three (3) hydrants be replaced each year. The estimated replacement cost is \$6,000 per hydrant, resulting in a total of \$18,000 for FY 22.

Sampling and Removal of Lead Goose Necks

The lead replacement program has a 10-year timeframe which includes sampling and removal of goosenecks identified. Costs will fluctuate on a year to year basis depending on responses and the number of lead goosenecks identified and replaced. The estimated annual cost for lead replacement program is approximately \$24,000. More detail on the Lead Replacement Program is provided in Appendix L of the Long Range Plan Update.

Structure Adjustments

In coordination with Town paving projects, the existing water structures need to be adjusted and raised to maintain access. For water, this primarily includes curb boxes for gate valves. This item includes the purchase of the risers and labor for the installation and is scheduled to start in FY 23.

The estimated costs which need to be included in the annual water operating budget for the next five years are summarized in Table 1.

Table 1
Annual Water Operations Budget
Budgeted Costs for Recommended Improvements
FY 22 – FY 26

Item	FY 22	FY 23	FY 24	FY 25	FY 26
Fire Hydrant Replacements	\$18,000	\$18,500	\$19,000	\$19,500	\$20,000
Lead Goose Neck Replacements	\$24,000	\$24,700	\$25,400	\$26,200	\$27,000
Structure Adjustments	---	\$32,000	\$33,000	\$34,000	\$35,000
Total	\$42,000	\$75,200	\$77,400	\$79,700	\$82,000

Notes:

1. Beginning in FY 23, the annual budgeted costs were increased about 3% annually.

CAPITAL PLAN

The water system improvements identified for the capital plan are broken down into supply, storage, and distribution.

Supply

The Town has typically budgeted \$10,000 annually for well redevelopment, but have found that when the well is redeveloped, the pump should be replaced. The total cost of the well development and pump replacement is estimated at \$25,000 so the plan would be to allocate adequate funds each year to perform the improvements on one well every two years. It is recommended to budget \$12,500 each year so that the funds are adequate to cover this cost.

Storage

The storage tanks are inspected every five years, but recently cracking has been observed. In the first year, the recommendation is to have the Eastside (Hartness) and Westside (High School) tanks inspected by the tank manufacturer. If the tanks can not be drained, the interior can be inspected using an ROV (Remotely Operated Vehicle). An inspection report would include recommendations for repair and a budget cost.

Funds would be budgeted annually to have one of the tanks repaired in FY 24 and the second tank repaired in FY 26. For the exterior repairs, a budget of \$50,000 is shown for each tank, so it is recommended to put aside \$25,000 per year. Based on the results of the inspection, these estimates may need to be adjusted in future years to ensure adequate funds are available when needed.

Distribution

The Long Range Plan included an estimate of \$25,000 annually for the replacement of small diameter waterlines. The focus was on shorter sections of waterlines (< 500') which will not require a Drinking Water Permit to Construct, but these two projects identified on Elm Terrace and Ellis Street may require some engineering and a Permit due to the length and complexity. On Elm Terrace, there is an existing 1-1/4" diameter waterline and on Ellis Street, a 1-1/2" diameter waterline.

Budget Estimates

The recommended costs for inclusion into the capital plan are summarized in Table 2. For FY 22, a budget of \$45,000 is recommended for these items and increases to \$65,600 in FY 26.

Table 2
Capital Plan
Budgeted Costs for Recommended Improvements

Item	FY 22	FY 23	FY 24	FY 25	FY 26
Supply					
Well Redevelopment	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500
Storage					
Tank Inspections	\$7,500				
Eastside Tank Repairs ⁽¹⁾		\$25,000	\$25,000		
Westside Tank Repairs ⁽¹⁾				\$25,000	\$25,000
Waterline Replacements ⁽²⁾					
Elm Terrace	\$25,000	\$25,750			
Ellis Street			\$26,500	\$27,300	\$28,100
Total	\$45,000	\$63,250	\$64,000	\$64,800	\$65,600

Notes:

1. The budgets for the tank repairs will need to be adjusted after completion of the inspection in FY 22.
2. Beginning in FY 23, the annual budgeted costs were increased 3% annually.

Other Recommendations

For the water system improvements completed under the Capital Plan, the work should be coordinated with other priorities, such as, paving and street reconstruction. Where the priorities and schedule align, this work should be coordinated with the Highway Capital Plan.

IMPROVEMENT PROJECTS

There are several water system improvement projects pending and the status is described in the narratives below.

Contract H – Clinton Street

This Contract includes waterline replacement on Clinton Street from the wastewater treatment facility to Bridge Street. These improvements include approximately 4,500' of new 12" PVC pipe and 600' of new 8" PVC pipe and appurtenances. The pipe material was changed from ductile iron to PVC to reduce the costs.

The project design was completed and permits obtained. It was put out to bid in June 2016, and split into a base bid and Bid Alternate, however, there was not adequate bonding capacity to award and move to construction. At the time, there was about \$960,000 remaining in uncommitted bonding capacity. The Drinking Water Permit to Construct was withdrawn in July 2018.

As an addition to this project, the Town wants to explore adding the waterline improvements in the area of Seavers Brook Road.

Contract I – Water Works Improvements

This Contract includes waterline replacements on Clinton Street (Bridge Street to Main Street), Bridge Street, Franklin and Wall Street, and Mill Road. These improvements include approximately 2,400' of new 12" waterline and 3,100' of new 8" waterline and appurtenances.

The design for this Contract I was 90% complete in 2016.

Contract J – Main Street

The Town wants to replace the original water main on Main Street, from Clinton Street to the VFW vault (near Eaton Avenue). Preliminary engineering (Step I) needs to be done to document the project need, consider alternatives, and develop a proposed project. For the proposed project, the scope will be defined, timeline, estimated costs, funding sources, etc. so that the Town can proceed to a bond vote.

Estimated Costs

As part of this capital plan, the estimated construction cost and total project cost were updated based on current 2021 costs. These costs are summarized in Table 3. The estimated costs for Contract J will be prepared during the preliminary engineering study.

**Table 3
Estimated Costs**

Contract No.	Estimated Construction Cost⁽¹⁾	Total Project Cost
H – Clinton Street	\$1,760,000	\$2,300,000
I – Water Works System	\$1,900,000	\$2,600,000
J – Main Street	tbd	tbd

Notes:

1. ENR 11800 = April 2021
2. The total project includes previous final design engineering costs incurred.

It should be noted that prior to a bond vote, the construction costs need to be updated to reflect the anticipated construction schedule.

Schedule

For these larger projects, a tentative schedule was developed and is provided in Table 5. The Town plans a bond vote in March 2022 and prefers to include Contracts H, I, and J in the bond vote amount. If the bond vote passes, the plan is to begin construction on Contract H in 2022, and follow with Contracts I and J in the following years as shown on Table 4.

**Table 4
Overall Schedule**

Date	Contract No.	Task	
2021	May-December	J	Preliminary engineering (Step I)
2022	January - March	H	Update final design (Step II) and permitting
	March		Bond Vote
	March	H	Advertise for Bids
	May	H	Start Construction
	November	H	Complete Construction
2023	February	I	Complete final design (Step II) and permitting Advertise for Bids
	March	J	Begin final design (Step II)
	May	I	Start construction
	December	I	Complete construction
2024	February	J	Complete final design and permitting Advertise for bids
	May	J	Begin construction
	December	J	Complete construction

Next Steps

For the Town to meet this schedule, and be ready for a March 2022 bond vote several items need to move forward as follows.

- May 2021:
 - Contract J: Submit the Drinking Water Planning Loan Application.
 - Contract J: Begin the preliminary engineering study (Step I) for Contract J.
- November 2021:
 - Contract H: Submit a Drinking Water Planning Loan Application for update of the design and permitting, and bond vote assistance.
- December 2021:
 - Contract H: Begin the update of the design and permitting for Contract H
- January 2022:
 - Begin the bond vote preparation.