

**TOWN ADMINISTRATOR PROPOSED
2021-2030 Capital Improvement Program**

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101	WATER FUND										
102	Backhoe Replacement (Cost split with Sanitation & WW)	28,500									
103	Lee Well Improvements	35,000									
104	Town Water System Improvements	25,000									
105	Town/UNH Shared Water System Improvements	35,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000
106	Madbury Road Water Line Replacement	500,000		2,205,000							
108	Utility Truck Replacement (One Ton)		65,000								
109	Wiswall Dam Spillway				650,000						
	WATER FUND TOTALS	623,500	135,000	2,275,000	720,000	70,000	70,000	70,000	70,000	70,000	70,000

CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR	2021	PROJECT COST	\$28,500
DESCRIPTION	<i>Backhoe Replacement</i>	DEPARTMENT	<i>Public Works- Sanitation, Water, WW</i>
DESCRIPTION (TO INCLUDE JUSTIFICATION):			
<p>Replace the 2006 JCB 4 Wheel Drive Backhoe. This piece of equipment is scheduled for replacement in 2021. The 2006 JCB was on a 12 year replacement schedule, however with the purchase of the rubber tired excavator in 2013, we were able to push this out further due to the excavator picking up a good percentage of the jobs. The machine is an essential piece of equipment for all Public Works Divisions and programs and is used year round. FUNDING: 50% Operations (\$63,000), 25% Water (\$31,000), 25% Wastewater (\$31,000 of which is 2/3 funded by UNH) will fund this purchase.</p>			
ESTIMATED COST	PURCHASE PRICE	\$ 31,000	Water Fund Portion Only
	ACCESSORIES*	\$ -	
	LESS TRADE-IN**	\$ (2,500)	
	NET PURCHASE PRICE	\$ 28,500	
	*Accessories include lighting, radios, striping, misc. equipment.		
FINANCING	OPERATING BUDGET	\$ -	
	UNH - CASH	\$ -	
	BOND - TOWN PORTION	\$ 28,500	
	FEDERAL/STATE GRANT	\$ -	
	CAPITAL RESERVE ACCOUN	\$ -	
	TOTAL FINANCING COSTS	\$ 28,500	
IF BONDED:	NUMBER OF YEARS	5	
	TOTAL PRINCIPAL	\$ 28,500	
	TOTAL INTEREST (EST'D)	\$ 1,300	
	TOTAL PROJECT COST	\$ 29,800	



CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR	2021	PROJECT COST	\$35,000
DESCRIPTION	<i>Lee Well Improvements</i>	DEPARTMENT	<i>Public Works - Water</i>
IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)			
Department Initiative			
DESCRIPTION (TO INCLUDE JUSTIFICATION)			
<p>The Lee Well pump house is a concrete masonry unit block building built in 1984 with a wood truss roof. The purpose of the building is to house the pump that draws water from the Lee Well and equipment that provides sodium hydroxide and sodium hypochlorite treatment. The Town of Durham has identified deficiencies with the existing Lee Well Pump House roof, specifically the failing condition of the asphalt shingles. The deficiencies in the roof have led to deterioration of the interior ceiling allowing precipitation to leak into the chemical storage room. The compromised condition of the existing roof may pose risks to the pump house that can adversely affect the equipment needed to provide water to the distribution system. Preliminary costs were also evaluated for improvements required to replace the entire roof of the pump house in the event that the roof sheathing is failing. The budget price is approximately \$35,000, which may be reduced if a portion of this work is completed using Town forces. This cost includes roofing, a new roof hatch, an electrical allowance, engineering, and contingency. As budgets allow this capital request will also provide initial funding for well inspection and redevelopment. In summary, as a municipal production well ages it becomes less efficient affecting water yield or specific capacity (gallons/minute/foot). This could result from incrustation from mineral deposits, physical plugging of the aquifer from sediment, well screen or casing corrosion or pump damage. Typically, well inspection and redevelopment is scheduled on a 6-8 year frequency or when well production notably decreases. The scope of well rehabilitation will include pump and motor removal, inspection, and repair, well hole and casing CCTV inspection and well redevelopment. This work was last completed in 2006 and is recommended to ensure ongoing dependable operation of the Lee well.</p>			
ESTIMATED COSTS:	PRELIMINARY STUDY, DESIGN AND ENGINEERING	\$	35,000
	FINAL DESIGN AND ENGINEERING	\$	-
	CONSTRUCTION ENGINEERING OVERSIGHT	\$	-
	CONSTRUCTION COSTS		
	CONTINGENCY	\$	-
	TOTAL PROJECT COST	\$	35,000
FINANCING	OPERATING BUDGET	\$	35,000
	UNH - CASH	\$	-
	BOND - TOWN PORTION	\$	-
	FEDERAL/STATE GRANT	\$	-
	CAPITAL RESERVE ACCOUNT	\$	-
	TOTAL FINANCING COSTS	\$	35,000
IF BONDED:	NUMBER OF YEARS		N/A
	TOTAL PRINCIPAL	\$	-
	TOTAL INTEREST	\$	-
	TOTAL ESTIMATED COST	\$	-



CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR	2021	PROJECT COST	\$25,000
DESCRIPTION	<i>Town Water System Improvements</i>	DEPARTMENT	<i>Public Works - Water</i>
IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)			
Department Initiative			
DESCRIPTION (TO INCLUDE JUSTIFICATION)			
<p><u>2021</u> - Durham Water System Master Plan - Initiative to create a comprehensive water system master plan for Durham owned and maintained water distribution system. The goal of this plan would be to utilize 3rd party engineering services which will include an inventory, evaluation and condition assessment of all water system infrastructure and will allow for the development of a water system GIS layer and prioritization of water system rehabilitation.</p>			
ESTIMATED COSTS:	PRELIMINARY STUDY, DESIGN AND ENGINEERING	\$	25,000
	FINAL DESIGN AND ENGINEERING	\$	-
	CONSTRUCTION ENGINEERING OVERSIGHT	\$	-
	CONSTRUCTION COSTS		
	CONTINGENCY	\$	-
	TOTAL PROJECT COST	\$	25,000
FINANCING	OPERATING BUDGET	\$	25,000
	UNH - CASH	\$	-
	BOND - TOWN PORTION	\$	-
	FEDERAL/STATE GRANT	\$	-
	CAPITAL RESERVE ACCOUNT	\$	-
	TOTAL FINANCING COSTS	\$	25,000
IF BONDED:	NUMBER OF YEARS		N/A
	TOTAL PRINCIPAL	\$	-
	TOTAL INTEREST	\$	-
	TOTAL ESTIMATED COST	\$	-



CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR	2021	PROJECT COST	\$35,000
DESCRIPTION	<i>Town/UNH Shared Water System Improvements</i>	DEPARTMENT	<i>Public Works - Water</i>
IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)			
Department Initiative			
DESCRIPTION (TO INCLUDE JUSTIFICATION)			
<p>2021 - TBD - \$35,000</p> <p>2022 - TBD - \$70,000</p> <p>2023 - TBD - \$70,000</p>			
*Estimated costs are Town's Share of 1/3 of the total cost estimated at \$210,000 per year			
ESTIMATED COSTS:	PRELIMINARY STUDY, DESIGN AND ENGINEERING	\$	-
	FINAL DESIGN AND ENGINEERING	\$	-
	CONSTRUCTION ENGINEERING OVERSIGHT	\$	-
	CONSTRUCTION COSTS	\$	35,000
	CONTINGENCY	\$	-
	TOTAL PROJECT COST	\$	-
FINANCING	OPERATING BUDGET	\$	35,000
	UNH - CASH	\$	-
	BOND - TOWN PORTION	\$	-
	FEDERAL/STATE GRANT	\$	-
	CAPITAL RESERVE ACCOUNT	\$	-
	TOTAL FINANCING COSTS	\$	35,000
IF BONDED:	NUMBER OF YEARS	N/A	
	TOTAL PRINCIPAL	\$	-
	TOTAL INTEREST	\$	-
	TOTAL ESTIMATED COST	\$	-



CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR	2021	PROJECT COST	\$500,000
DESCRIPTION	<i>Madbury Road Water Line Design</i>	DEPARTMENT	<i>Public Works - Water</i>
IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)			
Department Initiative			
DESCRIPTION (TO INCLUDE JUSTIFICATION)			
DPW to undertake Request for Qualifications process to hire a consultant to begin preliminary design of a new 12" ductile iron water main. This project will be completed in two construction phases beginning in 2023. Construction estimates will be further developed in design.			
PHASE I - Garrison Road to Edgewood Road (approx. 2300 ft) is a combination of 6" and 8" old pit cast iron pipe. The Town has experienced 3 water main ruptures in the past 10 years along this stretch of pipe. This project entails replacing the old, undersized pipe with new 12" ductile iron pipe which has a life expectancy of 80-100 years. (2380 LF @ \$323/LF Construction Cost Only)			
PHASE II - Edgewood Road to Route 4 (approx. 3300 ft) is a combination of 6" old pit cast iron pipe. The Town has experienced 4 water main ruptures in the past 10 years along this stretch of pipe. This project entails replacing the old, undersized pipe with new 12" ductile iron pipe which has a life expectancy of 80-100 years. (3310 LF @ \$323/LF Construction Cost Only)			
ESTIMATED COSTS:	PRELIMINARY STUDY, DESIGN AND ENGINEERING	\$	250,000
	FINAL DESIGN AND ENGINEERING	\$	250,000
	CONSTRUCTION ENGINEERING OVERSIGHT	\$	-
	CONSTRUCTION COSTS	\$	-
	CONTINGENCY 20%	\$	-
	TOTAL PROJECT COST	\$	500,000
FINANCING	OPERATING BUDGET	\$	-
	UNH - CASH	\$	-
	BOND - TOWN PORTION	\$	500,000
	FEDERAL/STATE GRANT	\$	-
	CAPITAL RESERVE ACCOUNT	\$	-
	TOTAL FINANCING COSTS	\$	500,000
IF BONDED:	NUMBER OF YEARS		10
	TOTAL PRINCIPAL	\$	500,000
	TOTAL INTEREST	\$	55,000
	TOTAL ESTIMATED COST	\$	555,000



CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR	2023	PROJECT COST	\$2,205,000
DESCRIPTION	<i>Madbury Road Water Line (Garrison - Route 4)</i>	DEPARTMENT	<i>Public Works - Water</i>
IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)			
Department Initiative			
DESCRIPTION (TO INCLUDE JUSTIFICATION)			
This project will be completed in two phases. Phase I will be Garrison Road to Edgewood Road and Phase II will be Edgewood Road to Route 4.			
PHASE I - Garrison Road to Edgewood Road (approx. 2300 ft) is a combination of 6" and 8" old pit cast iron pipe. The Town has experienced 3 water main ruptures in the past 10 years along this stretch of pipe. This project entails replacing the old, undersized pipe with new 12" ductile iron pipe which has a life expectancy of 80-100 years. (2380 LF @ \$323/LF Construction Cost Only)			
PHASE II - Edgewood Road to Route 4 (approx. 3300 ft) is a combination of 6" old pit cast iron pipe. The Town has experienced 4 water main ruptures in the past 10 years along this stretch of pipe. This project entails replacing the old, undersized pipe with new 12" ductile iron pipe which has a life expectancy of 80-100 years. (3310 LF @ \$323/LF Construction Cost Only)			
ESTIMATED COSTS:	PRELIMINARY STUDY, DESIGN AND ENGINEERING	\$	-
	FINAL DESIGN AND ENGINEERING		
	CONSTRUCTION ENGINEERING OVERSIGHT	\$	-
	CONSTRUCTION COSTS	\$	1,850,000
	CONTINGENCY 20%	\$	355,000
	TOTAL PROJECT COST	\$	2,205,000
FINANCING	OPERATING BUDGET	\$	-
	UNH - CASH	\$	-
	BOND - TOWN PORTION	\$	2,205,000
	FEDERAL/STATE GRANT	\$	-
	CAPITAL RESERVE ACCOUNT	\$	-
	TOTAL FINANCING COSTS	\$	2,205,000
IF BONDED:	NUMBER OF YEARS	20	
	TOTAL PRINCIPAL	\$	2,205,000
	TOTAL INTEREST	\$	579,000
	TOTAL ESTIMATED COST	\$	2,784,000



CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR	2022	VEHICLE COST	\$65,000
DESCRIPTION	1-Ton Utility Truck Replacement	DEPARTMENT	Public Works - Water
DESCRIPTION (TO INCLUDE JUSTIFICATION):			
<p>Replace the Water Division's 2012 Ford 1-ton utility truck. The current vehicle is a 2012 and on a 10 -12 year replacement schedule. Current unit is the only service vehicle in the Water Division and will have approximately 80,000 miles in 2022. This vehicle is equipped with numerous tools and equipment, such as a generator and a 2 ton crane. The 2 ton crane has been moved from previous trucks for the past 25 years and is also due to be updated. According to the New England Water Works Association equipment replacement survey 2022 is the optimum time to replace this piece of equipment. We anticipate a \$5,000 trade in. The truck cab and chassis cost is expected to be \$38,000, the crane \$5,000, utility body \$15,000 and a plow package will be added for approximately \$7,000 totalling \$65,000.</p>			
Vehicle to be Replaced: 2012 Ford Utility Truck with utility body and crane.			
ESTIMATED COST	PURCHASE PRICE	\$	58,000
	ACCESSORIES*	\$	7,000
	LESS TRADE-IN**	\$	-
	NET PURCHASE PRICE	\$	65,000
	*Accessories include lighting, radios, striping, misc. equipment.		
FINANCING	OPERATING BUDGET	\$	-
	UNH - CASH	\$	-
	BOND - TOWN PORTION	\$	65,000
	FEDERAL/STATE GRANT	\$	-
	CAPITAL RESERVE ACCOUNT	\$	-
	TOTAL FINANCING COSTS	\$	65,000
IF BONDED:	NUMBER OF YEARS		5
	TOTAL PRINCIPAL	\$	65,000
	TOTAL INTEREST (EST'D)	\$	2,900
	TOTAL PROJECT COST	\$	67,900



CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR	2023	PROJECT COST	\$650,000
DESCRIPTION	<i>Wiswall Dam Spillway</i>	DEPARTMENT	<i>Public Works - Water</i>
IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)			
NHDES Mandated			
DESCRIPTION (TO INCLUDE JUSTIFICATION)			
<p>The Wiswall Dam was constructed in 1912 and although the abutments have been rehabilitated, including complete replacement of the left abutment in 2011, the spillway has not had any attention in all these years. Part of the 2011 Wiswall Dam Repair and Fishladder Project was to include repair of the dam's spillway and installation of rock anchors in the dam's spillway to improve the dam's stability and reduce the risk of failure. During the 2011 construction it was determined rock anchor installation could not be performed as designed due to the presence of large boulders cast into the spillway's concrete. A geotechnical investigation conducted in July 2012, which included the extraction of two core samples into the spillway confirmed the presence of the boulders and provided concrete strength values needed for the design of the stability solution. The 2014 CIP included \$70,000 for preliminary design and the 2015 CIP included \$90,000 for final design and permitting.</p>			
\$70,000 (bond) was approved in 2014 and \$90,000 (bond) approved in 2015 towards this project.			
ESTIMATED COSTS:	PRELIMINARY STUDY, DESIGN AND ENGINEERING	\$	-
	FINAL DESIGN AND ENGINEERING	\$	-
	CONSTRUCTION ENGINEERING OVERSIGHT	\$	-
	CONSTRUCTION COSTS	\$	650,000
	CONTINGENCY	\$	-
	TOTAL PROJECT COST	\$	650,000
FINANCING	OPERATING BUDGET	\$	-
	UNH - CASH	\$	-
	BOND - TOWN PORTION	\$	650,000
	FEDERAL/STATE GRANT	\$	-
	CAPITAL RESERVE ACCOUNT	\$	-
	TOTAL FINANCING COSTS	\$	650,000
IF BONDED:	NUMBER OF YEARS		20
	TOTAL PRINCIPAL	\$	650,000
	TOTAL INTEREST	\$	136,500
	TOTAL ESTIMATED COST	\$	786,500

