CAPITAL IMPROVEMENT PROGRAM

Page #

97	*WASTEWATER FUND*	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
98	Wastewater Facilities Plan	425,000	425,000	425,000	425,000	425,000	425,000	425,000	425,000	425,000	425,000
99	Collection System Repair/Upgrade (Town/UNH)	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
100	Collection System Repair/Upgrade (Town Only)	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000
101	WWTP Major Components Contingency	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
102	Telehandler Replacement	95,000									
103	Commercial Lawnmower Replacement		25,000								
104	Pickup Truck Replacement (One Ton)						76,000	76,000			
	WASTEWATER FUND TOTALS	665,000	595,000	570,000	570,000	570,000	646,000	646,000	570,000	570,000	570,000

PROJECT YEAR	2024-2033	PROJECT COST	$425,000
DESCRIPTION	Wastewater Facilities Plan	DEPARTMENT	Public Works - Wastewater

IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)

Dept Initiative

DESCRIPTION (TO INCLUDE JUSTIFICATION)

The Town of Durham owns, operates, and maintains its Wastewater Treatment Facility (WWTF), which is located on Piscataqua Road (Rte 4) in Durham, NH. Capital expenditures are planned within the Wastewater Facilities plan and are funded at a 2/3 (UNH) and 1/3 (Town of Durham) cost sharing allocation. The WWTF serves a large portion of the Town, including the University of New Hampshire (UNH). The WWTF was expanded to a secondary treatment facility in 1977 and has since undergone several capital upgrades, including replacement of its dewatering equipment in 2015.

The Town, like many New Hampshire municipalities, is faced with increasing disposal costs for its dewatered biosolids. The facility has experience substantial escalation in disposals cost increasing in the last 2 years from $72/ton to currently $225.30/ton. The Facility on average disposes approximately 1,000-1,100 wet tons annually. This dramatic increase in cost is primarily due to the decreased availability of disposal locations accepting wastewater biosolids and the potential for PFAS contamination within biosolids and subsequent processing costs. In an effort to minimize disposal costs, Durham Public Works plans to complete a feasibility analysis and preliminary design for a biosolids (sludge) drying system at the WWTP. Preliminary design would include evaluating drying technologies and evaluating the economic feasibility of these systems. A dryer would decrease the volume and weight of dewatered sludge requiring disposal, and it could potentially add disposal options with the production of a Class A product. Current FY23 Wastewater Facilities Plan funding will be allocated towards this project. **Durham Public Works was notified in July that our pre-application for funding the sludge drying system feasibility study and preliminary design was favorably reviewed and the Town is eligible to apply for a $250,000 State Revolving Loan Fund Loan with $100,000 of principal forgiveness.** Funding for FY 2024 and FY 2025 is allocated for civil site work, including roadway paving at the WWTP and a phased construction of select stormwater best management practices (BMP's) to capture and treat the stormwater runoff from impervious surfaces at the WWTP. The WWTF's stormwater management system discharges to the Oyster River, located to the south of the WWTF. The Oyster River is classified by the New Hampshire Department of Environmental Services (NHDES) as an impaired water body under the State's 2022 303(d) list. The latest update to the Town of Durham's Municipal Separate Storm Sewer System (MS4) Permit (2017) requires the installation of best management practices (BMPs) in catchment areas draining to impaired waters. The WWTF was listed as a potential site for drainage upgrades, including stormwater BMP retrofits, as part of the MS4 NPDES permit. This municipal owned property has the largest area of impervious surface (approx. 4 acres) and therefore is a priority for treatment retrofits.

2024 - $425,000 - Civil Site Work/Stormwater BMP/Pavement Phase 1

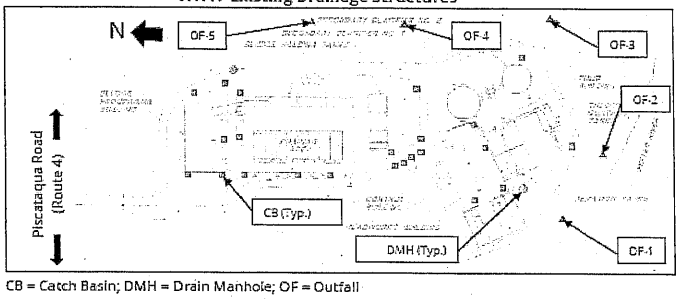
2025 - $425,000 - Civil Site Work/Stormwater BMP/Pavement Phase 2

2026 - 2031 - TBD with completion of updated Wastewater Facilities Plan in 2024.

Per current Agreement, these projects would be funded 2/3 UNH and 1/3 Town.

ESTIMATED COSTS:	PRELIMINARY STUDY, DESIGN AND ENGINEERING	$	-
	FINAL DESIGN AND ENGINEERING	$	-
	CONSTRUCTION ENGINEERING OVERSIGHT	$	-
	CONSTRUCTION COSTS	$	425,000
	CONTINGENCY	$	-
	TOTAL PROJECT COST	$	425,000
FINANCING	OPERATING BUDGET	$	-
	UNH - CASH	$	-
	BOND - TOWN PORTION	$	141,667
	BOND - UNH PORTION	$	283,333
	FEDERAL/STATE GRANT	$	-
	CAPITAL RESERVE ACCOUNT	$	-
	TOTAL FINANCING COSTS	$	425,000
IF BONDED:	NUMBER OF YEARS		10
	TOTAL PRINCIPAL	$	425,000
	TOTAL INTEREST	$	82,800
	TOTAL ESTIMATED COST	$	507,800

WWTF Existing Drainage Structures



CB = Catch Basin; DMH = Drain Manhole; OF = Outfall

CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR	*2024-2033*	**PROJECT COST**	*$30,000*
DESCRIPTION	*Collection System Repair/ Upgrade (Town/UNH)*	**DEPARTMENT**	*Public Works - Wastewater*

IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)

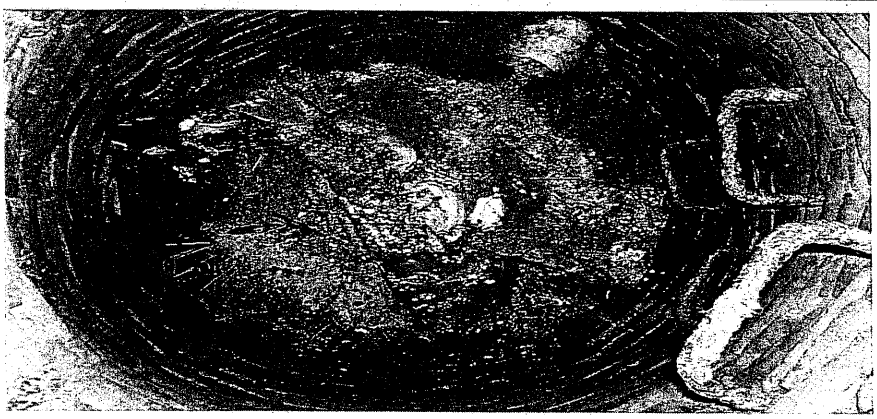
Dept Initiative

DESCRIPTION (TO INCLUDE JUSTIFICATION)

Repairs will be made to the Town/UNH shared wastewater collection system including line replacement and line repairs, engineering investigation, sewer manhole rehabilitation or replacement. This project also includes an updated I/I Study (inflow and infiltration), to locate needed repairs within the wastewater collection system. Inflow is the illegal connection of plumbing such as a sump pump into the Wastewater Collection System and infiltration is the seepage of groundwater or stormwater into the Wastewater Collection System. The amount of staff time spent on collection system maintenance will decrease as these problem areas are corrected.
The Town received a $100,000 ARPA grant in FY22 to complete a West End Sewer Study and recently awarded a contract to Wright-Pierce Engineers to undertake this work. Findings will allow appropriate planning and upgrades to take place as required for new development and capacity demands on the Western side of the collection system.

Per current Agreement, these projects would be funded 2/3 UNH and 1/3 Town.

ESTIMATED COSTS:	PRELIMINARY STUDY, DESIGN AND ENGINEERING	$	-
	FINAL DESIGN AND ENGINEERING	$	-
	CONSTRUCTION ENGINEERING OVERSIGHT	$	-
	CONSTRUCTION COSTS	$	30,000
	CONTINGENCY	$	-
	TOTAL PROJECT COST	$	30,000
FINANCING	OPERATING BUDGET	$	-
	UNH - CASH	$	-
	BOND - TOWN PORTION	$	-
	BOND - UNH PORTION	$	-
	FEDERAL/STATE GRANT	$	-
	CAPITAL RESERVE ACCOUNT	$	30,000
	TOTAL FINANCING COSTS	$	30,000
IF BONDED:	NUMBER OF YEARS		N/A
	TOTAL PRINCIPAL	$	-
	TOTAL INTEREST	$	-
	TOTAL ESTIMATED COST	$	-



CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR	*2024-2033*	**PROJECT COST**	*$65,000*
DESCRIPTION	*Collection System Repair/ Upgrade (Town)*	**DEPARTMENT**	*Public Works - Wastewater*

IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)

Dept Initiative

DESCRIPTION (TO INCLUDE JUSTIFICATION)

Repairs will be made to the Town's wastewater collection system including line replacement and line repairs, engineering investigation, sewer manhole rehabilitation or replacement. This project also includes inflow and infiltration within the wastewater collection system. Inflow is the illegal connection of plumbing such as a sump pump into the Wastewater Collection System and infiltration is the seepage of groundwater or stormwater into the Wastewater Collection System. The amount of staff time spent on collection system maintenance will decrease as these problem areas are corrected. The last inflow/infiltration study was completed in 2013 to prioritize future areas of repairs/improvements in the sewer collection system. The Town was fortunate to receive a $100,000 ARPA grant in FY22 to undertake additional studies including inflow/infiltration on the Western side of the collection system. Further inflow/infiltration studies and improvements are planned over the next several years including collection system rehabilitation on roadways such as Pettee Brook Lane and Woodman Road. Additionally, this capital request will fund collection system piping rehabilitation on Dennison Road in FY24 as part of the FY24 Road Program.

Per current Agreement, this project will be funded 100% by the Town.

ESTIMATED COSTS:	PRELIMINARY STUDY, DESIGN AND ENGINEERING	$	-
	FINAL DESIGN AND ENGINEERING	$	-
	CONSTRUCTION ENGINEERING OVERSIGHT	$	-
	CONSTRUCTION COSTS	$	65,000
	CONTINGENCY	$	-
	TOTAL PROJECT COST	$	65,000
FINANCING	OPERATING BUDGET	$	-
	UNH - CASH	$	-
	BOND - TOWN PORTION	$	65,000
	BOND - UNH PORTION	$	-
	FEDERAL/STATE GRANT	$	-
	CAPITAL RESERVE ACCOUNT	$	-
	TOTAL FINANCING COSTS	$	65,000
IF BONDED:	NUMBER OF YEARS		3
	TOTAL PRINCIPAL	$	65,000
	TOTAL INTEREST	$	4,525
	TOTAL ESTIMATED COST	$	69,525

CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR	*2024-2033*	**PROJECT COST**	*$50,000*
DESCRIPTION	*WWTP Major Components Contingency*	**DEPARTMENT**	*Public Works - Wastewater*

IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)

Dept Initiative

DESCRIPTION (TO INCLUDE JUSTIFICATION)

It is a sound management practice to build a major components contingency fund for the Durham Wastewater Treatment Plant which operates on a continuous basis, 24 hours a day, 7 days per week. This fund allocates funding for unplanned, extraordinary equipment failures to maintain uninterrupted operations, and to prudently manage unforeseen challenges, while complying with the facilities federal and state discharge permits and upholding the facility's vital role in environmental protection and public health. Given the non-stop nature of operations at the Treatment Plant, the contingency fund becomes even more essential.

Per current Agreement, these projects would be funded 2/3 UNH and 1/3 Town.

ESTIMATED COSTS:	PRELIMINARY STUDY, DESIGN AND ENGINEERING	$	-
	FINAL DESIGN AND ENGINEERING	$	-
	CONSTRUCTION ENGINEERING OVERSIGHT	$	-
	CONSTRUCTION COSTS	$	50,000
	CONTINGENCY	$	-
	TOTAL PROJECT COST	$	50,000
FINANCING	OPERATING BUDGET	$	-
	UNH - CASH	$	-
	BOND - TOWN PORTION	$	-
	BOND - UNH PORTION	$	-
	FEDERAL/STATE GRANT	$	-
	CAPITAL RESERVE ACCOUNT	$	50,000
	TOTAL FINANCING COSTS	$	50,000
IF BONDED:	NUMBER OF YEARS		N/A
	TOTAL PRINCIPAL	$	-
	TOTAL INTEREST	$	-
	TOTAL ESTIMATED COST	$	-

CAPITAL IMPROVEMENTS PROGRAM

PROJECT YEAR	*2024*	**EQUIPMENT COST**	*$95,000*
DESCRIPTION	*Telehandler Replacement*	**DEPARTMENT**	*Public Works - Wastewater*

DESCRIPTION (TO INCLUDE JUSTIFICATION):

The 2010 JLG G5-18A Compact Telehandler is scheduled for replacement in 2024. It is primarily utilized to transport an assortment of consumables and waste materials at the wastewater treatment facility. The lifting and carrying capabilities of the telehandler significantly streamlines this process, making it more efficient overall. Additionally, during the winter months, the telehandler plays a crucial role in snow removal around the treatment plant campus to maintain accessibility during such conditions. The telehandler is a multipurpose machine involved in key function ranging from material handling to various landscaping projects. However, as the telehandler reaches its 14th year in 2024, it is now at the end of its useful life, necessitating its replacement to ensure continued smooth operations and safety. Durham Public Works is proactively exploring alternative fuel options for this upcoming acquisition, including electric and compressed natural gas (CNG) solutions.

Equipment to Replace: 2010 JLG G5-18A Telehandler

Per current Agreement, these projects would be funded 2/3 UNH and 1/3 Town.

ESTIMATED COST	**PURCHASE PRICE**	**$**	**100,000**
	ACCESSORIES*	**$**	**-**
	LESS TRADE-IN**	**$**	**(5,000)**
	NET PURCHASE PRICE	**$**	**95,000**
	***Accessories include lighting, radios, striping, misc. equipment.**		
FINANCING	**OPERATING BUDGET**	**$**	**-**
	UNH - CASH	**$**	**-**
	BOND - TOWN PORTION	**$**	**-**
	BOND - UNH PORTION	**$**	**-**
	FEDERAL/STATE GRANT	**$**	**-**
	CAPITAL RESERVE ACCOUNT	**$**	**95,000**
	TOTAL FINANCING COSTS	**$**	**95,000**
IF BONDED:	**NUMBER OF YEARS**		**N/A**
	TOTAL PRINCIPAL	**$**	**-**
	TOTAL INTEREST (EST'D)	**$**	**-**
	TOTAL PROJECT COST	**$**	**-**

CAPITAL IMPROVEMENTS PROGRAM

PROJECT YEAR	*2025*	**EQUIPMENT COST**	*$25,000*
DESCRIPTION	*Commercial Lawnmower Replacement*	**DEPARTMENT**	*Public Works - Wastewater*

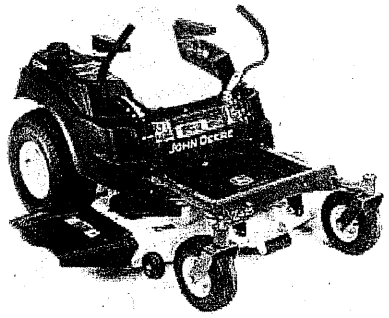
DESCRIPTION (TO INCLUDE JUSTIFICATION):

The 2013 John Deere Z72 Commercial Lawn Mower is scheduled for replacement in 2025. This equipment is operated for weekly throughout the growing season, to maintain the turf on the five acre Wastewater Treatment Plant site.
The 2013 John Deere Z72 Commercial Lawn Mower will be 12 years old in 2025 and requires replacement due to the wear and tear it has experienced over the years, leading to reduced performance. Minor routine maintenance has been undertaken annually, however it is evident after several costly mechanical failures recently that a new mower is necessary to ensure optimal efficiency and effectiveness in maintaining the site's grounds. Durham Public Works intends to replace this equipment with a fully electric machine in 2025.

Equipment to Replace: 2013 John Deere Z72

Per current Agreement, these projects would be funded 2/3 UNH and 1/3 Town.

ESTIMATED COST	**PURCHASE PRICE**	**$**	**25,000**
	ACCESSORIES*	**$**	**-**
	LESS TRADE-IN**	**$**	**-**
	NET PURCHASE PRICE	**$**	**25,000**
	***Accessories include lighting, radios, striping, misc. equipment.**		
FINANCING	**OPERATING BUDGET**	**$**	**-**
	UNH - CASH	**$**	**-**
	BOND - TOWN PORTION	**$**	**-**
	BOND - UNH PORTION	**$**	**-**
	FEDERAL/STATE GRANT	**$**	**-**
	CAPITAL RESERVE ACCOUNT	**$**	**25,000**
	TOTAL FINANCING COSTS	**$**	**25,000**
IF BONDED:	**NUMBER OF YEARS**		**N/A**
	TOTAL PRINCIPAL	**$**	**-**
	TOTAL INTEREST (EST'D)	**$**	**-**
	TOTAL PROJECT COST	**$**	**-**



CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR	*2029*	**VEHICLE COST**	*$76,000*
DESCRIPTION	*One Ton Pick-Up Replacement*	**DEPARTMENT**	*Public Works - Wastewater*

DESCRIPTION (TO INCLUDE JUSTIFICATION):

Durham Public Works will be replacing the Wastewater Division's 2019 Ford F-350 One Ton Pick-Up Truck in 2029. The Wastewater Division's motor pool currently includes two one-ton pick-up trucks, which are used by the five plant employees. These trucks play a crucial role in transporting personnel, equipment, and materials for both routine and emergency maintenance tasks across the Wastewater Treatment Plant Campus and the Town's network of 14 miles of wastewater collection and conveyance system piping, around 350 sewer manholes, and five pump stations. Furthermore, the pick-up truck is also instrumental in handling snow and ice control operations at the Wastewater Treatment Plant Campus and the pump station facilities. To cater to these requirements, this vehicle will come equipped with a plow package. Durham Public Works is proactively exploring alternative fuel options for this upcoming acquisition, including electric and compressed natural gas (CNG) solutions. As part of its maintenance plan, this vehicle is scheduled for replacement every 10-12 years.

Vehicle to be Replaced: Truck # WW-1- 2019 Ford F-350

Per current Agreement, these projects would be funded 2/3 UNH and 1/3 Town.

ESTIMATED COST	**PURCHASE PRICE**	$	73,000
	ACCESSORIES*	$	8,000
	LESS TRADE-IN**	$	(5,000)
	NET PURCHASE PRICE	$	76,000
	*Accessories include lighting, radios, striping, misc. equipment.		
FINANCING	**OPERATING BUDGET**	$	-
	UNH - CASH	$	-
	BOND - TOWN PORTION	$	-
	BOND - UNH PORTION	$	-
	FEDERAL/STATE GRANT	$	-
	CAPITAL RESERVE ACCOUNT	$	76,000
	TOTAL FINANCING COSTS	$	76,000
IF BONDED:	**NUMBER OF YEARS**		N/A
	TOTAL PRINCIPAL	$	-
	TOTAL INTEREST (EST'D)	$	-
	TOTAL PROJECT COST	$	-

CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR	*2030*	**VEHICLE COST**	*$76,000*
DESCRIPTION	*One Ton Pick-Up Replacement*	**DEPARTMENT**	*Public Works - Wastewater*

DESCRIPTION (TO INCLUDE JUSTIFICATION):

Durham Public Works will be replacing the Wastewater Division's 2019 Ford F-350 One Ton Pick-Up Truck in 2030. The Wastewater Division's motor pool currently includes two one-ton pick-up trucks, which are used by the five plant employees. These trucks play a crucial role in transporting personnel, equipment, and materials for both routine and emergency maintenance tasks across the Wastewater Treatment Plant Campus and the Town's network of 14 miles of wastewater collection and conveyance system piping, ~350 sewer manholes, and five pump stations. Furthermore, the pick-up truck is instrumental in handling snow and ice control operations at the Wastewater Treatment Plant Campus and the pump station facilities. To facilitate these operational requirements, this vehicle will come equipped with a plow package. Durham Public Works is proactively exploring alternative fuel options for this upcoming acquisition, including electric and compressed natural gas (CNG) solutions. As part of its maintenance plan, this vehicle is scheduled for replacement every 10-12 years and is jointly funded 2/3 (UNH) and 1/3 (Town of Durham).

Vehicle to be Replaced: Truck # WW-2- 2019 Ford F-350

Per current Agreement, these projects would be funded 2/3 UNH and 1/3 Town.

ESTIMATED COST	PURCHASE PRICE	$	72,000
	ACCESSORIES*	$	8,000
	LESS TRADE-IN**	$	(4,000)
	NET PURCHASE PRICE	$	76,000
	*Accessories include lighting, radios, striping, misc. equipment.		
FINANCING	OPERATING BUDGET		
	UNH - CASH		
	BOND - TOWN PORTION	$	-
	BOND - UNH PORTION	$	-
	FEDERAL/STATE GRANT	$	-
	CAPITAL RESERVE ACCOUNT	$	76,000
	TOTAL FINANCING COSTS	$	76,000
IF BONDED:	NUMBER OF YEARS		N/A
	TOTAL PRINCIPAL	$	-
	TOTAL INTEREST (EST'D)	$	-
	TOTAL PROJECT COST	$	-