

# **WATER & SEWER UTILITIES RATE & FEE ANALYSES**

Water System - PWID No. NJ0704001  
Sewerage System – NJPDES No. NJ0025330

CP Project No. 510.W034

Prepared For: The Township of Cedar Grove



March 2024



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Sparta, NJ 07871  
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March 19, 2024

Joseph M. Zichelli, Esq.  
Township Manager  
Township of Cedar Grove  
525 Pompton Avenue  
Cedar Grove, New Jersey 07009

Re: Water and Sewer Utilities - Rate Analyses and Recommendations

Dear Mr. Zichelli:

We are pleased to submit to the Township of Cedar Grove this Report examining the current rate structure of the Township's Water and Sewer Utilities. Contained within the report are specific policy and rate recommendations based on the anticipated future costs of providing the Township's customers with high quality and regulatorily compliant water and sewerage services.

Our analyses and recommendations regarding modifications to the Township's current water and sewer ordinances (with placeholders for rates and fees) have already been provided to the Township under separate cover.

We appreciate the opportunity to work with you and the Township on this project, and commend the invaluable information and assistance provided by your office and the Township's Administrative, Financial and Public Works Staff.

Very truly yours,

**CP ENGINEERS, LLC.**

Stephen E. Donati, P.E.  
Executive Vice President & Chief Operating Officer

Joseph M. Mikulka, C.P.M.  
Senior Regulatory Specialist

C: Rebecca Roth, Chief Financial Officer  
Michael Grasso, Water & Sewer Superintendent

M:\Clients\cedargrove\510.032 EQ Tank Rehabilitation\Correspondence\Outgoing\Affirmative Defense Claim 11-03-2023.docx

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# 1.0 PURPOSE, BACKGROUND AND SCOPE

The purpose of a Water and Sewerage System Rate Analysis is to determine the appropriate pricing structure for services provided. The primary focus of a rate analysis is to ensure that the utility can cover its operating costs, including infrastructure maintenance, personnel expenses, professional assistance and debt service, while also providing reliable and sustainable water and sewerage services to customers.

Cedar Grove Township owns and operates a Water Utility, which is registered with and permitted by the N.J. Department of Environmental Protection (NJDEP) under PWID No. NJ0704001. The Water Utility is subject to regulation under the N.J. Safe Drinking Water Act (N.J.S.A. 58:12A-1 et seq.) and its associated regulations (N.J.A.C. 7:10-1 et seq.) as well as other applicable Federal and State laws and regulations, such as the America's Water Infrastructure Acts (AWIA) of 2018 and 2020. The water utility consists of water storage tanks, pumping stations, distribution mains, and interconnections with neighboring municipalities and the facilities of the Passaic Valley Water Commission (PVWC) and the North Jersey District Water Supply Commission (NJDWSC).

Cedar Grove Township also owns and operates a Sewer Utility, whose infrastructure includes a wastewater collection system, and a wastewater treatment facility. The Township's sewerage system is permitted by NJDEP under NJPDES Permit No. NJ0025330 to discharge up to 2 million gallons of treated wastewater to the Peckman River. The sewerage system is subject to regulation under the N.J. Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.), its associated regulations (N.J.A.C. 7:14-1 et seq.), the New Jersey Pollutant Discharge Elimination System regulations (N.J.A.C. 7:14A-1 et seq.) as well as the Federal Clean Water Act.

These laws and regulations require the operators of all regulated water and sewerage systems to properly maintain, operate and improve their systems, and have the financial capacity to do so. The N.J. Safe Drinking Act provides for penalties of up to \$25,000 per violation, and the N.J. Water Pollution Control Act provides for penalties of up to \$50,000 per violation. Thus, there are potentially severe financial consequences for not operating water and sewer facilities in compliance with the applicable statutes and regulations.

As our municipal water and sewerage systems have aged, and in many cases, contain infrastructure that is nearing or exceeding its expected useful life, there have been increasing numbers of catastrophic failures such as water and sewer line breaks. In recognition of this, over the past decade, regulatory agencies at both the Federal and State levels have stressed the urgent need for water and sewerage system owners and operators to develop asset management plans and establish adequate operating and capital improvement budgets to address our aging environmental infrastructure and the costs of more stringent environmental regulations. As a case in point, the AWIA mandates the development of asset management plans for all regulated water systems.

Another relatively recent focus of regulatory agencies at the Federal and State levels is the need to modify environmental infrastructure to be resilient in the face of the potential of increased impacts from various types of destructive weather events due to climate change.

Therefore, it is incumbent on all owners and operators of water and sewerage systems to regularly examine their operating and capital improvement budgets, appropriations and user rates to assure that they are sufficient to properly and legally operate the utilities, replace aging infrastructure before catastrophic failures

# 1.0 PURPOSE, BACKGROUND AND SCOPE

occur, respond to emergent situations, assure resiliency in the face of climate change impacts, and comply with the ever increasingly more stringent standards for safe drinking water and wastewater discharges.

Cedar Grove has the added potential vulnerability of purchasing its water from the Passaic Valley Water Commission and the North Jersey District Water Supply Commission, in that it is dependent on those water purveyors to supply the water to Cedar Grove in compliance with the applicable State and Federal laws and regulations, but as a public water supply, Cedar Grove also has responsibilities under those regulatory controls, even though it has no direct control over the quality of the water produced. For example, in 2023, the water supplied to Cedar Grove by those purveyors was not always in compliance with certain treatment parameters that help assure that lead and copper meet Federal drinking water standards, and Cedar Grove was faced with unexpected additional expenses for additional monitoring, reporting and public notification.

While some rate studies examine aspects such as customer class, demographics, system limits and rate structures, the scope of this rate analysis is focused on assuring the financial stability of the water and sewerage utilities by assessing revenue adequacy and identifying potential funding gaps or financial risks.

## 2.0 METHODOLOGY

To inform CP's review and analyses of the Township's current Water and Sewer Rates, Fees & Charges, CP reviewed the following documents and information:

- 2023 Appropriations & Expenditures for:
  - #3-Water Operating Fund (Appendix 1)
  - #7-Water Capital Fund (Appendix 2)
  - #4-Sewer Operating Fund (Appendix 3)
  - #8-Sewer Capital Fund (Appendix 4)
- 2023 Revenues for:
  - #3-Water Operating Fund (Appendix 5)
  - #4-Sewer Operating Fund (Appendix 6)
- Five Year Capital Improvement Plan for the Water & Sewer Utilities prepared by Township Officials (Appendix 7)
- Current Water & Sewer Utilities Debt Service Information prepared by Township Officials (Appendix 8)
- Current Water & Sewer Rates and Methodologies, Fees & Charges of proximate municipalities (Montclair, Fairfield, North Caldwell) – (Appendix 9) and Verona (Sewer only)

CP then determined where discrepancies existed between the Water & Sewer budgets and revenues and the amount of additional revenues that would be necessary to:

- Fully fund the Water & Sewer Operating Budgets
- Fully fund the Township's Current Water & Sewer Debt Service
- Fully fund the Debt Service for the Township's Five-Year Capital Improvement Plan for the Water & Sewer Utilities
- Provide a reasonable surplus to serve as a source of funding for unexpected contingencies and emergencies, and inflationary increases in the cost of goods and services

In order to generate the required additional revenues, CP recommended adjustments to the current methodology and rates to accomplish same. The rates should, in and of themselves, fund the operation, current debt service and future capital improvement debt service of the utilities, because it is difficult to predict income from initial connection fees (which are in addition to fees for permits and connection services) and individual service fees. Initial connection fees are intended to compensate the Township and current users for the costs of the initial construction of the systems and past costs for capital improvements that they will now benefit from.

## 2.0 METHODOLOGY

It is recommended that initial connection fees for both utilities be based on Equivalent Dwelling Units (EDUs), which is a standardized measure of a contributing source's demand or impact on public utility facilities, based on the source's comparison with a typical single family residential dwelling. We further recommend that one EDU be equivalent to a use with a design flow of 250 gallons per day, which equates to a residential dwelling unit with 2.5 bedrooms.

However, each and every residential dwelling unit, whether it be attached or detached housing, should be considered as one EDU regardless of design flow. In all the other cases, the design flow shall be calculated using the design flow criteria established by the New Jersey Department of Environmental Protection in N.J.A.C. 7:14A-23.3. Thus, every multiple or partial multiple of 250 gallons above 1 EDU would constitute an additional EDU.

CP also examined the fees for various services provided by the Water & Sewer utilities, and recommends that adjustments be made to insure that they adequately cover the Township's costs for providing such services (Time to Conduct Service x Employee Rate + Cost of Materials), and are reasonably comparable to fees charged by other proximate municipalities.

The details of these analyses and recommendations are provided in the subsequent sections of this report.

As addressed in Section 1.0, the scope of this analysis does not include evaluation of alternate rates structures. Potential rate structures could include:

- Flat Rates - Customers are charged a fixed fee regardless of the volume of water consumed.
- Uniform Rates: Customers are charged a constant rate per unit of water consumed (e.g., per gallon or cubic meter).
- Tiered Rate: This structure involves charging different rates for different levels of water consumption.
- Seasonal Rates: Rates vary depending on the time of year, with higher rates during peak demand seasons such as summer.
- Time-of-Use Rates: Rates vary depending on the time of day when water is consumed.
- Hybrid Rate Structures: Some utilities combine elements of different rate structures to achieve specific objectives, such as combining increasing block rates with seasonal adjustments or time-of-use pricing.

These rate structures can be effective and appropriate based upon specific conditions such as high season use locations or limited supply locations. For Cedar Grove, however, we feel that the most equitable and least complex structure is the Uniform Rate structure.

## 2.0 METHODOLOGY

In a separate but related endeavor, CP has reviewed the Township of Cedar Grove's Water (Chapter 259) and Sewer (Chapter 217) Ordinances and has suggested updates and revisions, primarily consisting of:

- Addressing the concerns and recommendations expressed by Township officials (Manager, Chief Financial Officer, Water & Sewer Superintendent) at our kickoff meeting.
- Assuring consistency of terms throughout the ordinances.
- Replacing gender specific terms and references with appropriate language.
- Updating or deleting outdated historical information, regulatory and agency references.
- Updating or deleting outdated requirements for construction techniques and/or materials, based on current acceptable practices; replacing the details with general language which will permit updated requirements to be issued as necessary by the Township without the need for future ordinance revisions.
- Updating methodologies regarding the calculation of certain fees and charges.
- Correction of typos, and revisions to awkward or confusing language.

The suggested revisions were reviewed and edited by the Township Manager, Chief Financial Officer, and Water & Sewer Superintendent and are currently undergoing initial legal review prior to being finalized and introduced for consideration by the Township Council.

# 3.0 WATER UTILITY ANALYSES & RECOMMENDATIONS

CP commenced this analysis by examining Cedar Grove’s rate structure in relation to proximate neighboring municipalities. In a comparison of Cedar Grove’s current Water Rates with the current water rates of Montclair, Fairfield, and North Caldwell, the annual cost for 120,000 gallons of water would be:

- Montclair: \$643.28 > \$668.26 (range based on pipe size)
- Fairfield: \$659.75
- N. Caldwell: \$840.00
- Cedar Grove: \$600.00

The above comparison clearly indicates that Cedar Grove is currently charging less for its water than its proximate municipal neighbors.

Montclair utilizes a hybrid, five-tiered system based on both total amount of water use and pipe size. Fairfield utilizes a two-tiered structure, both North Caldwell and Cedar Grove utilize a uniform rate structure. It is recommended that Cedar Grove retain the uniform rate structure because a multi-tiered system, while potentially serving to encourage water conservation, is problematic for the following reasons:

1. More complicated and time-consuming record keeping
2. More complicated and time-consuming billing
3. More potential for inequities and user complaints when a tier is closely crossed

The analysis then focused on Cedar Grove’s financial statistics from the most recent calendar year (2023). The 2023 Comparison of the Water Utility’s Balance Sheet is as follows:

#3 - Water Operating Fund Appropriations /Expenditures	\$2,730,020
#3 - Water Operating Fund Revenues	\$2,407,143
#3 - Water Operating Fund Shortall	\$ 322,877

The 2024 Budget has not yet been finalized. However, we need to account for the following in the 2024 Budget:

	2023	2024	DIFFERENTIAL
Existing Bonds - Principal Payments Due	\$105,000	\$110,000	\$ 5,000
Existing Bonds – Interest Payments Due	\$ 58,688	\$ 58,150	(\$ 538)
Existing Notes – Principal Payments Due	\$156,000	\$ 58,381	(\$97,619)
Existing Notes – Interest Payments Due	\$101,037	\$ 92,433	(\$ 8,604)
6% Increase in Cost of Water from PVWC & NJDWSC	\$855,474	\$ 906,802	\$ 51,328
5% Operating Fund Contingency Cushion	\$0	\$ 136,501	\$136,501
Recover 2023 Operating Fund Shortfall	\$0	\$ 322,877	\$ 322,877
<b>TOTAL ADDITIONAL REVENUES NEEDED (2024)</b>			<b>\$ 374,205</b>

## 3.0 WATER UTILITY ANALYSES & RECOMMENDATIONS

Thus, the additional revenues needed for 2024 will be \$374,205, which is **15.5%** of the 2023 Total Revenue, which suggests that the Water Utility rates should be increased by that percentage. However, these calculations would not account for the projected capital improvements contained in the 5 Year Capital Improvement Plan prepared by Township officials, with assistance from CP, which are estimated to total \$3,300,000 over that period. In consideration of the additional debt service costs for this necessary water main replacement work, a more conservative and financially protective increase would be a Water Utility Rate increase of **20%**.

# SEWER UTILITY ANALYSES & RECOMMENDATIONS

Similar to our treatment of water rates, CP commenced this analysis by examining Cedar Grove’s rate structure in relation to proximate neighboring municipalities. Below is a comparison of Cedar Grove’s current Sewer Rates with the current sewer rates of Montclair, Fairfield, and North Caldwell,

Montclair: \$236.73 > \$23,669.99 / annum

Fairfield: <17,500 g: \$160 > \$199 / quarter; >17,500 g: \$17.50 / 1000 gpd per quarter

N. Caldwell: \$225 / annum

Cedar Grove: <20,000 g: \$90 / quarter; >20,000 g - \$7.35 / 1000 gpd per quarter

It is difficult to compare the approach of the respective municipalities above because the methodologies differ significantly, and Cedar Grove operates its own wastewater treatment facility, unlike those municipalities, which send their wastewater elsewhere for treatment. Therefore, we have further examined Cedar Grove’s sewer rates in comparison with those of the Township of Verona, which also operates a wastewater treatment facility.

Verona currently charges a uniform rate of \$600 per EDU (225 gpd) per annum. For comparison purposes, though calculated somewhat differently, the current Cedar Grove rate would result, for an equivalent gallonage, in an annual charge of \$603.62. Thus, both municipalities are currently very consistent with the results of their overall rate methodologies. However, Verona has announced the implementation of very significant rate increases that will take place in this and subsequent years (see news article later in this section).

The analysis then focused on Cedar Grove’s financial statistics from the most recent calendar year (2023). The 2023 Comparison of the Sewer Utility’s Balance Sheet is as follows:

#4 - Sewer Operating Fund Appropriations /Expenditures	\$2,641,323
#4 - Sewer Operating Fund Revenues	\$2,371,801
#4 - Sewer Operating Fund Shortfall	\$ 269,522

The 2024 Budget has not yet been finalized. However, we need to account for the following in the 2024 Budget:

	2023	2024	DIFFERENTIAL
Existing Bonds - Principal Payments Due	\$200,000	\$210,000	\$ 10,000
Existing Bonds - Interest Payments Due	\$111,150	\$107,500	(\$ 3,650)
Existing Notes - Principal Payments Due	\$ 86,000	\$ 92,000	\$ 6,000
Existing Notes - Interest Payments Due	\$ 84,537	\$ 80,141	(\$ 4,396)
5% Operating Fund Contingency Cushion	\$0	\$ 132,066	\$132,066
Recover 2023 Operating Fund Shortfall	\$0	\$ 269,522	\$ 269,522
<b>TOTAL ADDITIONAL REVENUES NEEDED (2024)</b>			<b>\$ 409,542</b>

Thus, the additional revenues needed for 2024 will be \$409,542, which is **17.3%** of the 2023 Total Revenue, which suggests that the Sewer Utility rates should be increased by that percentage. However, these calculations would not account for the projected capital improvements contained in the 5 Year Capital

# SEWER UTILITY ANALYSES & RECOMMENDATIONS

Improvement Plan prepared by Township officials, with assistance from CP, which are estimated to total \$4,150,000 over that period. In consideration of the additional debt service costs for these necessary wastewater facilities replacements and improvements, a more conservative and financially protective increase would be a Sewer Utility Rate increase of **20%**.

Another factor that must be considered going forward is NJDEP's focus on emerging contaminants of concern, such as Nitrates and PFAS (Forever Chemicals) which could potentially result in requiring significant upgrades to the wastewater treatment facility's treatment technologies in the near future.

In that regard, on the following page is a recent news article that reports that Verona is raising its water and sewer rates by **28%** this year, with further increases forthcoming in the near future.

Further, consistent with the water utility, It is recommended that Cedar Grove convert to a uniform rate structure because a multi-tiered system is problematic for the following reasons:

1. More complicated and time-consuming record keeping
2. More complicated and time-consuming billing
3. More potential for inequities and user complaints when a tier is closely crossed

# SEWER UTILITY ANALYSES & RECOMMENDATIONS



Photo Credit: Township of Verona

By TAPinto Verona/Cedar Grove Staff

Published March 7, 2024 at 6:50 AM

VERONA, NJ -- The Verona Township Council introduced an ordinance at its Feb. 26 meeting to increase water and sewer rates for the next five years.

The ordinance, which also adds a PFAS (polyfluoroalkyl substances) surcharge starting in 2025, calls for a rate hike of more than 28 percent on residents' water bills in 2024. The water rate for 2024 will be \$8.88 per Kgal, with a \$26.64 minimum. This is a 28.3% increase. After this year, the rate will go up 4%.

The PFAS surcharge added in 2024 will be a flat \$18 for the majority of Verona households, but will be higher than that depending on the size of the water pipe to the residence or commercial property. The quarterly sewer rate will increase 6 percent in 2024 to \$159. After that, it increases by approximately 4 percent per year.

All the recommendations that were in Verona's recent water and sewer rate study are being adopted.

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## APPENDICES

APPENDICES #1 – #9 ARE  
INCLUDED IN THIS SECTION

#3 - WATER OPERATING FUND

DEPARTMENTS	3050	3100	3150	3210	3215	3220	3230	3620	FUND TOTAL
	\$269,913	\$286,869	\$18,000	\$156,000	\$14,027	\$49,516	\$15,000	\$6,632	
	\$7,973	\$6,000	\$0	\$101,037					
	\$3,860	\$58,285	\$0	\$105,000					
	\$1,110	\$13,500	\$0	\$58,688					
	\$170	\$100	\$0						
	\$0	\$208	\$0						
	\$7,300	\$2,200	\$0						
	\$200	\$14,000	\$0						
	\$2,940	\$1,207	\$0						
	\$45,000	\$61	\$0						
	\$900	\$800	\$0						
	\$900	\$105,000	\$0						
	\$15,002	\$4,724							
	\$2,603	\$45,528							
		\$98							
		\$6,500							
		\$7,775							
		\$376,872							
		\$478,602							
		\$0							
		\$3,285							
		\$4,000							
		\$30,426							
		\$275							
		\$2,750							
		\$900							
		\$6,000							
		\$2,370							
		\$790							
		\$6,100							
		\$4,414							
		\$2,750							
		\$21,220							
		\$0							
		\$3,795							
		\$5,000							
		\$3,175							
		\$1,000							
		\$10,064							
		\$500							
		\$900							
		\$14,000							
		\$22,633							
		\$22,132							
		\$600							
		\$1,893							
		\$3,214							
		\$787							
		\$96,342							
		\$17,684							
		\$52,609							
		\$98,312							
		\$0							
		\$0							
		\$0							
<b>DEPARTMENT TOTALS</b>	<b>\$357,871</b>	<b>\$1,848,249</b>	<b>\$18,000</b>	<b>\$420,725</b>	<b>\$14,027</b>	<b>\$49,516</b>	<b>\$15,000</b>	<b>\$6,632</b>	<b>\$2,730,020</b>

## APPENDIX 1

- 3050 **ADMINISTRATION** - Full Time Salaries, Overtime, Postage, Printing & Binding, Conference & Dues, **Service Contract**, Computer Maintenance Contract, Copier Maintenance Contract, Computer Software Support, Payroll Services, Data Processing Services, General Office Supplies, Audit, Eng. Professional Services,
- 3100 **OPERATING** - Full Time Salaries, Part Time, Overtime, Mun. Bldg. Telephone, PSE&G - Highview PSE&G - 78 Montclair Ave., PSE&G-Vincent Rd. #2, PSE&G-Vincent Rd. #1, PSE&G-Club Way WT, PSE&G-960 Pompton Ave., PSE&G-Eileen Drive, PSE&G-Francisco Ave. PS, Commerce Road PSE&G-Patten Ter., PSE&G-Fairview Ave., State Water Tax, Reservoir Ridge Condo Hydrants, PVWC Purchase, Wanaque South-Purchase, **Kearny Water Purchase**, Conferences & Dues, Vehicle Maintenance, Equipment Maintenance, Rentals, Computer Software Support, ESRI Desktop License, Water Consultant, Reverse 911, DEP Operating Permit, Consumer Confidence Report, NJ One Call, Mobile iPad Service, Water Sample Tests, **Eng. Professional Fuel & Lubricants**, Office Supplies, Vehicle Parts & Acc., Fire Hydrants, General Equipment, Building Materials & Supplies, Garden & Park Supplies, Gen. Hardware & Tools, Group Dental Plan, Disability Insurance, Workmans Comp Insurance, Group Employee Medical Insurance, Comprehensive Package, Public Employee Retirement Fund, **Plumbing, Heat & AC Supplies, Edmunds, Fire & Other Safety Equipment**
- 3150 **CAPITAL OUTLAY** - Water Main Repairs, **Storz Hydrant Connections, VFW Pump Station Cleanup, AutoRead Handheld Device, Hydrant Markers, Replace Pipe Locator, Computer Upgrade, GIS Software, Water Tank Radio System, Water Meter Replacement, MXU Radio Units Adobe Software, Hydrant Leak Test Program**
- 3210 **DEBT SERVICE** - NOTE PRINCIPAL, NOTE INTEREST, BOND PRINCIPAL, BOND INTEREST
- 3215 **DEFERRED CHARGES** - DEFICIT IN OPERATIONS
- 3220 **SOCIAL SECURITY** -SOCIAL SECURITY
- 3230 **CAPITAL IMPROVEMENT FUND** - SUNDRY CAPITAL COSTS
- 3620 **SALARY & WAGE ADJUSTMENT PROGRAM** - FULL TIME SALARIES

APPENDIX 2

#7 - WATER CAPITAL FUND

DEPARTMENTS	7001	7002	7003	7004	7005	7006	7007	7008	7009	7010	7011	7012	7013	7014	7015	7016	7017	7018	7019	7020	FUND TOTAL
	\$8,446	\$400,000	\$370,000	\$25,000	\$50,000	\$32,000	\$3,000	\$263,000	\$12,500	\$12,500	\$600,000	\$2,900	\$2,200	\$225,000	\$275,000	\$7,500	\$4,200	\$60,000	\$15,000	\$15,000	
		\$25,000	\$50,000		\$40,000	\$32,000	\$4,000	\$18,000	\$14,000	\$5,500	\$75,000	\$225,000	\$85,000	\$75,000	\$100,000	\$10,000	\$10,000	\$75,000	\$90,000	\$50,000	
					\$273,000	\$78,000	\$11,500	\$25,000	\$8,500	\$15,000	\$275,000	\$10,000	\$10,000	\$10,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$10,000	
					\$12,000	\$25,000	\$12,000	\$13,500	\$6,000	\$20,000	\$25,000	\$15,000	\$15,000	\$15,000		\$51,000	\$51,000	\$50,000			
					\$25,000	\$25,000	\$25,000	\$20,000	\$20,000	\$20,000		\$234,000	\$20,000	\$20,000		\$9,500	\$12,500				
						\$3,000	\$25,000	\$20,000	\$62,000	\$14,000		\$4,800	\$4,800	\$3,600		\$24,000	\$5,500				
							\$25,000	\$12,500	\$6,000	\$3,500		\$25,000	\$2,800	\$27,000		\$30,000	\$16,500				
							\$21,000	\$138,500	\$18,000	\$18,000		\$12,500	\$12,500	\$5,400		\$45,000	\$185,000				
							\$500	\$1,700	\$25,000	\$200,000		\$5,400	\$7,700			\$275,000	\$75,000				
								\$32,800	\$20,000	\$23,000		\$23,000				\$50,000	\$10,300				
									\$20,000	\$90,000		\$12,400				\$1,000					
										\$18,000	\$5,000										
										\$50,000	\$23,500										
<b>DEPARTMENT TOTALS</b>	<b>\$8,446</b>	<b>\$425,000</b>	<b>\$420,000</b>	<b>\$25,000</b>	<b>\$400,000</b>	<b>\$195,000</b>	<b>\$127,000</b>	<b>\$545,000</b>	<b>\$280,000</b>	<b>\$450,000</b>	<b>\$975,000</b>	<b>\$570,000</b>	<b>\$160,000</b>	<b>\$381,000</b>	<b>\$390,000</b>	<b>\$518,000</b>	<b>\$385,000</b>	<b>\$200,000</b>	<b>\$105,000</b>	<b>\$75,000</b>	<b>\$6,634,446</b>

## APPENDIX 2

7001	IMPROVEMENTS TO WATER SYSTEM - NJSA 40A:2-20 EXPENSES
7002	WATER MAIN REPLACEMENT - OZONE AVENUE WATER MAIN; NJSA 40A:2-20 EXPENSES
7003	WATER MAIN EXT. FAIRVIEW AVE. - FAIRVIEW AVENUE EXT.; NJSA 40A:2-20 EXPENSES
7004	ACQUISITION OF WATER METERS - ACQUISITION OF WATER METERS
7005	VARIOUS WATER CAPITAL IMPROVEMENTS - ACQUISITION OF WATER METERS, ACQUISITION OF VALUE VAC TRAILER, POMPTON AVENUE WATER MAIN, WATER STORAGE TANK CLEANING, NJSA 40A:2-20 EXPENSES
7006	VARIOUS WATER UTILITY IMPROVEMENTS - DUMP TRUCK, PANEL TRUCK, WATER TANK RADIO SYSTEM, WATER METER REPLACEMENT, RADIO REMOTE READ UNITS, NJSA 40A:2-20 EXPENSES
7007	VARIOUS WATER UTILITY IMPROVEMENTS - 3" CENTRIFUGAL PUMP, TRENCH SHORING, VALVE REPLACEMENT, HYDRANT REPLACEMENT, HYDRAULIC MODELING GIS, WATER METER REPLACEMENT, REMOTE READ RADIO UNITS, TANK CLEANING & INSPECTION, NJSA 40A:2-20 EXPENSES
7008	VARIOUS WATER UTILITY IMPROVEMENTS - LAKEWOOD AVENUE WATER MAIN, WATER MAIN IMPROVEMENTS, GIS, SYSTEM LEAK TEST PROGRAM, WATER METER REPLACEMENT, REMOTE READ RADIO UNITS, HYDRANT CONNECTIONS, WATER TANK REHABILITATION, NJSA 40A:2-20 EXPENSES, FIELD LOCATION EQUIPMENT
7009	VARIOUS WATER UTILITY IMPROVEMENTS - HYDRANT CONNECTORS, ANNUAL LEAK SURVEY, COMPUTER HARDWARE & SOFTWARE, ACQUISITION OF CHAIN SAW, ACQUISITION OF ROAD SAW, WATER MAIN WATER TANK/PUMP STATION REHAB
7010	VARIOUS WATER UTILITY IMPROVEMENTS - STORZ HYDRANT CONNECTION, SWIFTRREACH REVERSE 911, GIS, WATER METER REPLACEMENT, REMOTE READ RADIO UNITS, ANNUAL LEAK SURVEY, COMPUTER HARDWARE & SOFTWARE, WATER MAIN IMPROVEMENTS, FRANCISCO PUMP STATION, EQUIPMENT TRUCK, HYDRANT MAKERS, NJSA 40A:2-20 EXPENSES
7011	VARIOUS WATER IMPROVEMENTS - REHAB CLUB WAY VFW WATER TANK, CLEAN/CEMENT EXISTING MAINS, REPLACE LAKEWOOD MAIN, NJSA 40A:2-20 EXPENSES
7012	VARIOUS WATER IMPROVEMENTS - SWIFTRREACH REVERSE 911, FRANCISCO PUMP STATION, GIS, ANNUAL LEAK SURVEY, WATER METER REPLACEMENT, REPLACE PATTEN TERRACE FENCE, ACQUISITION OF WATER UTILITY VEHICLE, STORZ HYDRANT CONNECTIONS, REPLACE HEATING & A.C., PATTEN TERRACE CONTROLS, NJSA 40A:2-20 EXPENSES
7013	VARIOUS WATER IMPROVEMENTS - PLATE COMPACTOR, FRANCISCO PUMP STATION, GIS, ANNUAL LEAK SURVEY, WATER METER REPLACEMENT, REPLACEMENT 36" LAWN MOWER, REPLACEMENT 38" SNOW BLOWER, STORZ HYDRANT CONNECTIONS, NJSA 40A:2-20 EXPENSES
7014	VARIOUS WATER IMPROVEMENTS - VFW TANK RESTORATION, FRANCISCO PUMP STATION, GIS, ANNUAL LEAK SURVEY, WATER METER REPLACEMENT, LANDSCAPE TRAILER, CLUB WAY WATER TANK REHAB, PUMP STATION ALARM SYSTEM
7015	VARIOUS WATER IMPROVEMENTS - VFW TANK RESTORATION, FRANCISCO PUMP STATION, ANNUAL LEAK SURVEY
7016	VARIOUS WATER IMPROVEMENTS - REPLACEMENT OF HVAC UNIT, GIS, ANNUAL LEAK SURVEY, WATER METER REPLACEMENT, LANDSCAPE TRAILER, HYDRANT REPLACEMENT, PATTEN TERRACE PUMP STATION, REPLACEMENT OF WATER UTILITY, WATER MAIN REPLACEMENT, INSERTION VALVE REPLACEMENT, NJSA 40A:2-20 EXPENSES
7017	VARIOUS WATER IMPROVEMENTS - REPLACE GARAGE LIGHTING, GIS, ANNUAL LEAK SURVEY, WATER METER REPLACEMENT, VFW ELECTRONIC CONTROLS, COMPUTER SOFTWARE UPGRADE, HYDRANT REPLACEMENT, WATER MAIN REPLACEMENT, FRANCISCO AVE. OIL TANK REMOVAL, NJSA 40A:2-20 EXPENSES
7018	VARIOUS WATER IMPROVEMENTS - WATER INSERTION VALVES, WATER DISTRIBUTION SYSTEM UPGRADES, ANNUAL LEAK SURVEY, WATER METER REPLACEMENT
7019	VARIOUS WATER IMPROVEMENTS - ANNUAL LEAK SURVEY, WATER METER REPLACEMENT
7020	VARIOUS WATER IMPROVEMENTS - ANNUAL LEAK SURVEY, WATER METER REPLACEMENT, NJSA 40A:2-20 EXPENSES

APPENDIX 3

#4 - SEWER OPERATING FUND

DEPARTMENTS	4050	4060	4100	4150	4200	4210	4215	4220	4230	4620	FUND TOTAL
	\$292,426	\$152,515	\$298,949	\$0	\$0	\$200,000	\$16,573	\$62,003	\$15,000	\$9,033	
	\$5,671	\$0	\$0	\$0		\$111,150	\$0	\$0	\$0		
	\$2,400	\$23,180	\$30,404	\$0		\$86,000					
	\$71,000	\$3,000	\$17,284	\$0		\$84,537					
	\$0	\$16,000	\$125,000	\$37,500							
	\$3,490	\$20,000	\$22,000	\$0							
	\$1,110	\$100	\$10,308	\$0							
	\$170	\$1,695	\$6,000	\$0							
	\$0	\$1,962	\$3,609	\$0							
	\$6,055	\$1,289	\$2,500	\$0							
	\$200	\$986	\$289	\$0							
	\$2,122	\$1,000	\$3,800	\$0							
	\$2,700	\$1,780	\$3,000	\$0							
	\$0		\$27,500	\$0							
	\$0		\$1,500	\$0							
	\$900		\$0								
	\$900		\$26,472								
	\$6,743		\$30,000								
	\$2,603		\$0								
			\$20,602								
			\$1,000								
			\$3,625								
			\$2,200								
			\$11,500								
			\$0								
			\$0								
			\$255,000								
			\$87,492								
			\$3,660								
			\$6,600								
			\$800								
			\$0								
			\$1,800								
			\$1,500								
			\$32,130								
			\$2,000								
			\$2,800								
			\$0								
			\$655								
			\$1,595								
			\$1,967								
			\$8,038								
			\$15,702								
			\$41,336								
			\$7,944								
			\$98,203								
			\$180,766								
			\$0								
<b>DEPARTMENT TOTALS</b>	<b>\$398,490</b>	<b>\$223,507</b>	<b>\$1,397,530</b>	<b>\$37,500</b>	<b>\$0</b>	<b>\$481,687</b>	<b>\$16,573</b>	<b>\$62,003</b>	<b>\$15,000</b>	<b>\$9,033</b>	<b>\$2,641,323</b>

## APPENDIX 3

- 4050 **ADMINISTRATION** - FULL TIME SALARIES, OVERTIME, VERONA W&S, LITTLE FALLS W&S, **NEWARK W&S**, POSTAGE, PRINTING&BINDING, CONFERENCE&DUES, **SERVICE CONTRACT**, COMPUTER MAINTENANCE CONTRACT, COPIER MAINTENANCE CONTRACT, COMPUTER SOFTWARE SUPPORT, PAYROLL SERVICES, **MUNCIPAL ENGINEER**, **NJWB LOAN FEE**, DATA PROCESSING SUPPLIES, GENERAL OFFICE SUPPLIES, AUDIT, ENGINEERING PROF. SERVICES
- 4060 **MAINTENANCE** - FULL TIME SALARIES, **PART TIME**, OVERTIME, OTHER EQUIPMENT, PROFESSIONAL FEES, OTHERWISE NOT CLASSIFIED, CHEMICALS & GASES, CLOTHING & UNIFORMS, GENERAL EQUIPMENT & MACHINE PARTS, BUILDING MATERIALS & SUPPLIES, FIRE & SAFETY ELEMENTS, JANITORIAL MATERIAL & SUPPLIES, GENERAL HARDWARE & TOOLS
- 4100 **OPERATING** - FULL TIME SALARIES, **PART TIME**, OVERTIME, MUN. BLDG. TELEPHONES, PSE&G STP, DIGESTER, PSE&G MONTCLAIR P.S., PSE&G GREENDALE RD., PSE&G NORTH END P.S., WATER & SEWER, WATER PURCHASE, CONFERENCES & DUES, VEHICLE MAINTENANCE, MAINTENANCE-OTHER EQUIPMENT, BLDG. MAINTENANCE, **RENTALS**, CONSULTING ENGINEER, OUTSIDE LAB TESTS, **ACUTE TOXICITY TESTS**, NJDEP PERMIT FEES, NJ LAB CERTIFICATION FEE, CHRONIC TOXICITY TEST, BACKFLOW PREVENTOR, LICENSE STIPENDS, **SALARIES**, **PROFESSIONAL FEES**, SLUDGE REMOVAL CONTRACT, CHEMICALS & GASES, CLOTHING & UNIFORMS, FUEL & LUBRICANTS, OIL/LUBRICANTS, **HEATING OIL**, OFFICE SUPPLIES, VEHICLE PARTS & ACCESSORIES, GEN. EQUIP. & MACHINE PARTS, BLDG., MATERIALS & SUPPLIES, ELECTRICAL & COMMUNICATION SUPPLIES, **FIRE & SAFETY ELEMENTS**, JANITORIAL MATERIAL & SUPPLIES, GEN. HARDWARE & TOOLS, DISABILITY INSURANCE, GROUP DENTAL PLAN, FLOOD INS., WORKMANS COMP INS., GROUP MEDICAL INS., COMPREHENSIVE PKG., PUBLIC EMPLOYEE RETIREMENT FUND, **EDMUNDS**
- 4150 **CAPITAL OUTLAY** - **FLOW METER, RBC BLOWER UNIT, UV SYSTEM MODULE, ALL WEATHER REFRIG. SAMPLES, EMERGENCY REPAIR, SMALL PICKUP, PH METER, DO METER, SPECTROPHOTOMETER, AC UNIT IN MCC RM., BLOWER, POWER WASHER, PUMP HOIST SYSTEM, STEAM POWER WASHER, TRASH PUMP**
- 4200 **DEBT SERVICE** - **SUNDRY CONTRACTUAL SERVICE**
- 4210 **DEBT SERVICE** - BOND PRINCIPAL, BOND INTEREST, NOTE PRINCIPAL, NOTE INTEREST
- 4215 **DEFERRED CHARGES** - DEFICIT IN OPERATIONS, **EMERGENCY APPROPRIATION**
- 4220 **STATUTORY EXPENSES** -SOCIAL SECURITY, **UNEMPLOYMENT INSURANCE**
- 4230 **CAPITAL IMPROVEMENT FUND** - SUNDRY CAPITAL COSTS, **DOWN PAYMENT ON IMPROVEMENTS**
- 4620 **SALARY & WAGE ADJUSTMENT PROGRAM** - FULL TIME SALARIES

#8 - SEWER CAPITAL FUND

DEPARTMENTS	8001	8002	8003	8004	8005	8006	8007	8008	8009	8010	8011	8012	8013	8014	8015	8016	8017	8018	8019	8020	8021	FUND TOTAL
	\$3,845	\$1,736	\$700,000	\$1,250,000	\$150,000	\$30,000	\$72,000	\$60,000	\$32,000	\$3,600	\$50,000	\$56,000	\$7,100	\$100,000	\$35,000	\$400,000	\$30,000	\$100,000	\$140,000	\$200,000	\$175,000	
			\$125,000	\$0		\$80,000	\$32,000	\$60,000	\$32,500	\$50,000	\$1,500,000	\$83,000	\$15,000	\$15,000	\$41,000	\$130,000	\$45,000	\$50,000	\$45,000	\$200,000	\$40,000	
				\$50,000		\$30,000	\$8,000	\$3,000	\$500	\$11,600	\$24,000	\$300,000	\$60,000	\$5,000			\$15,000	\$75,000	\$75,000		\$10,000	
						\$10,000		\$20,000			\$50,000	\$1,050,000	\$142,900				\$15,000		\$20,000			
						\$5,000		\$7,000			\$50,000	\$53,000					\$15,000					
						\$250,000					\$20,000	\$34,511					\$20,000					
						\$10,000					\$31,000											
						\$15,000																
						\$10,000																
						\$5,000																
						\$12,000																
						\$8,000																
DEPARTMENT TOTALS	\$3,845	\$1,736	\$825,000	\$1,300,000	\$150,000	\$465,000	\$112,000	\$150,000	\$65,000	\$65,200	\$1,725,000	\$1,576,511	\$225,000	\$120,000	\$76,000	\$530,000	\$140,000	\$225,000	\$280,000	\$400,000	\$225,000	\$8,660,292

## APPENDIX 4

8001	REHAB OF SEWER SYSTEM
8002	RECON OF WWTF - NJSA 40A:2-20 EXPENSES
8003	REPLACE MICROSCREEN SYSTEM - REPLACE MICROSCREEN SYSTEM; NJSA 40:2-20 EXPENSES
8004	REPLACE MICROSCREEN SYSTEM - REPLACE MICROSCREEN SYSTEM; <b>BLANK OBJECT</b> ; NJSA 40:2-20 EXPENSES
8005	REPLACE UV SYSTEM - REPLACE UV SYSTEM
8006	IMPROVE WWTF - SETTLED SEWAGE PUMPS, GENERATORS, RBC REPAIR, SLUDGE DIGESTER INSPECTION, SLUDGE DIGESTER GAS SYSTEM, SLUDGE DIGESTER CLEANING, 100HP PUMP REPAIRS, ABOVE GROUND FUEL TANK, EQ TANK CONTROL, LAB EQUIPMENT REPLACEMENT, PUMP STATION REPAIRS, NJSA 40A:2-20 EXPENSES
8007	VARIOUS SEWER CAPITAL IMPROVEMENTS - LYNWOOD AVE. SEWER REAHAB, 4X4 PICKUP TRUCK, NJSA 40:2-20 EXPENSES
8008	VARIOUS SEWER UTILITY IMPROVEMENTS - CHANNEL MONSTER, RBC REPAIR, METAL CORROSION ENGINEERING STUDY, SETTLED SEWAGE PUMPS, NJSA 40:2-20 EXPENSES
8009	VARIOUS SEWER UTILITY IMPROVEMENTS - WWTF STUDY, PICKUP TRUCK, NJSA 40:2-20 EXPENSES
8010	VARIOUS SEWER UTILITY IMPROVEMENTS - UV SYSTEM MODULE, SANITARY SEWER IMPROVEMENTS, ALL WEATHER REFRIGERATED UNIT
8011	VARIOUS SEWER UTILITY IMPROVEMENTS - SEWER INFILTRATION SYSTEM, RBC REPLACEMENT, FERRIC CHLORIDE TANK, SEWER SYSTEM IMPROVEMENTS, SEWER JET REPLACEMENT, COPPER STUDY, NJSA 40:2-20 EXPENSES
8012	VARIOUS SEWER IMPROVEMENTS - REPLACE SETTLED SEWAGE PUMPS, REPLACE 100HP PUMP, REPAINT EQ TANK, RBC REPLACEMENT, UPGRADE SAND FILTER, NJSA 40:2-20 EXPENSES
8013	VARIOUS SEWER IMPROVEMENTS - COMMUNICATION EQUIPMENT, WOODMERE ROAD STORM SEWER, PAINTING EQ TANK, NJSA 40:2-20 EXPENSES
8014	VARIOUS SEWER IMPROVEMENTS - DIGESTER IMPROVEMENTS, SEWER SYSTEM IMPROVEMENTS, NJSA 40:2-20 EXPENSES
8015	VARIOUS SEWER IMPROVEMENTS - SEWER UTILITY TRUCK, MASON DUMP TRUCK
8016	VARIOUS SEWER IMPROVEMENTS - EQ TANK REHABILITATION, SKYTOP SEWER LINE REPLACEMENT
8017	VARIOUS SEWER IMPROVEMENTS - WWTF IMPROVEMENTS, SEWER UTILITY TRUCK WITH SNOW PLOW, PUMP STATION IMPROVEMENTS, NEW FILTER STUDY, SECURITY FENCE UPGRADES, RBC REPAIRS,
8018	VARIOUS SEWER IMPROVEMENTS - GLENDALE PUMP STATION I/I, WWTF IMPROVEMENTS (2)
8019	VARIOUS SEWER IMPROVEMENTS - BACKHOE ACQUISITION, MASON DUMP TRUCK ACQUISITION, STORM DRAIN OUTFALL SCREENING
8020	VARIOUS SEWER IMPROVEMENTS - RBC REPLACEMENT, I/I PROJECT
8021	VARIOUS SEWER IMPROVEMENTS - GREENDALE PUMP STATION GENERATOR

# APPENDIX 5

## TOWNSHIP OF CEDAR GROVE BUDGET ACCOUNT DETAIL AS OF DEC 2023

Date : 02/26/2024

**Fund : 3 - WATER OPERATING FUND**

Page : 6 of 6.00

03- 0999- 0549- 0197		WATER OPERATING FUND		DEPARTMENT 549	UTILITY OPERATING	
FUND	3	MISCELLANEOUS		TYPE	DEFERRED CHARGES UNFUNDE	
SOURCE	999	CURRENT YEAR		197	PREVIOUS YEAR	
ORIGINAL ESTD		307,679.19	REVENUE	0.00	ESTIMATE	0.00
REVISIONS		0.00	UNREALIZED	307,679.19	REVENUE	0.00
TRANSFERS		0.00	PCT	0.00		
<b>DEPT TOTAL:</b>				20.00	0.00	0.00
<b>REV TOTAL:</b>				20.00	0.00	0.00
<b>FUND TOTAL:</b>				2,407,143.33	0.00	0.00
<b>GRAND TOTAL:</b>				2,407,143.33	0.00	0.00

# APPENDIX 6

## TOWNSHIP OF CEDAR GROVE BUDGET ACCOUNT DETAIL AS OF DEC 2023

Date : 02/26/2024

### Fund : 4 - SEWER OPERATING FUND

Page : 4 of 4.00

04- 0900- 0549- 0051		SEWER OPERATING FUND		DEPARTMENT	549	UTILITY OPERATING	
FUND	4			TYPE	51	HOOKUP FEE	
SOURCE	900	MRNA				PREVIOUS YEAR	
		CURRENT YEAR					
ORIGINAL ESTD		0.00	REVENUE	0.00	ESTIMATE	0.00	
REVISIONS		0.00	UNREALIZED	0.00	REVENUE	0.00	
TRANSFERS		0.00	PCT	0.00			
<hr/>							
04- 0900- 0549- 0052		SEWER OPERATING FUND		DEPARTMENT	549	UTILITY OPERATING	
FUND	4			TYPE	52	INT ON DELIQUENT CHARGE	
SOURCE	900	MRNA				PREVIOUS YEAR	
		CURRENT YEAR					
ORIGINAL ESTD		0.00	REVENUE	0.00	ESTIMATE	0.00	
REVISIONS		0.00	UNREALIZED	0.00	REVENUE	0.00	
TRANSFERS		0.00	PCT	0.00			
<hr/>							
DEPT TOTAL:				0.00			
REV TOTAL:				0.00			
<hr/>							
04- 0999- 0549- 0197		SEWER OPERATING FUND		DEPARTMENT	549	UTILITY OPERATING	
FUND	4			TYPE	197	DEFERRED CHARGES UNFUNDE	
SOURCE	999	MISCELLANEOUS				PREVIOUS YEAR	
		CURRENT YEAR					
ORIGINAL ESTD		226,995.52	REVENUE	0.00	ESTIMATE	0.00	
REVISIONS		0.00	UNREALIZED	226,995.52	REVENUE	0.00	
TRANSFERS		0.00	PCT	0.00			
<hr/>							
DEPT TOTAL:				0.00			
REV TOTAL:				0.00			
FUND TOTAL:				2,371,801.11		0.00 0.00	
GRAND TOTAL:				2,371,801.11		0.00 0.00	

# APPENDIX 7

## MEMORANDUM

TO: CP Engineers

CC: Michael Grasso, Water/Sewer Superintendent; Rebecca Roth, CMFO; Mayor and Council

FROM: Joseph M. Zichelli, Esq., Township Manager

RE: Water and Sewer Five (5) Year Capital Plan

DATE: February 27, 2024

In preparation of the Water and Sewer Rate Study being conducted by CP Engineers, in anticipation of overhauling the municipal code as it relates to Water and Sewer procedures and rates, which has not been amended since 2019, I worked with Michael Grasso on the following five-year capital plan for both utilities. Broadly, the Township needs to raise rates so that the utilities are self-liquidating and not running a deficit. As will be reflected in the 2024 Municipal Budget, water purchases from PVWC and NJDWSC has increased by six percent (6%). As such, a substantial increase is warranted—especially since this is the first-time rates are being raised in five years. A more comprehensive discussion will be had upon the Council’s consideration of the proposed ordinance, however, below for immediate review are the capital plans for the utilities.

### FIVE YEAR CAPITAL PLAN SEWER UTILITY

ITEM NO.	EQUIPMENT	EST COST	EST USEFUL LIFE * (yr)	AGE (yr)	CONDITION	EXPECTED REPLACEMENT (yrs)	FIVE YEAR ESTIMATED COST
1	Automatic Screener	\$80,000	25	5	Good	20	\$0
2	Primary Clarifiers	\$600,000	50	70	Poor	1-5	\$600,000
3	100 H.P. Pumps	\$30,000	20	1	Good	19	\$0
4	Rotating Biological Contactors (RBCs)		20	See – Expected Replacement	Fair to Poor	21 total units: 7 replaced in 2013 6 replaced in 2015 1 replaced in 2020 7 must be replaced	\$1,400,000
5	Secondary Clarifiers	\$600,000	50	70	Fair	1-5	\$600,000
6	Sand Filters	\$1,300,000	15	15	FAILING	1-5	\$1,300,000
7	U.V Disinfection	\$500,000	30	20	Fair	10	0
8	E.Q. Tank Coating	\$400,000	25	0	New	25	\$0
9	Digester	\$2,500,000	50	70	FAILING	1-5	\$2,500,000
10	Greendale Pump Station	\$500,000	25	2	Good	23	\$0
11	Montclair Pump Station	\$500,000	25	2	Good	23	\$0
12	Northend Pump Station	\$500,000	25	2	Good	23	\$0

\*Since installed or last rehabilitation/upgrade

## APPENDIX 7

Unfortunately, the most pressing items that need to be addressed are the most expensive items. In the order set forth above, the items to be considered are as follows and serve the following functions:

- 1) **Automatic Screener:** installed directly in the channels of wastewater treatment plants, during continuous operation. Collects napkins, rags, and other solids before treatment begins. What does not pass through the spacing of the screen is collected and disposed of.
- 2) **Primary Clarifiers:** A primary clarifier is a wastewater treatment unit used to separate heavy solids and grease from wastewater. This is the first stage in wastewater treatment. It consists in preparing the water for the following treatments. A primary clarifier works by gravity, with coarse waste floating to the surface. The heavy sludge settles to the bottom, separating the phases. The supernatant, composed of water and small light wastes, is then sent to the other treatment steps for purification. The primary clarifier is essential in a wastewater treatment plant, as it separates out coarse waste. This separation prevents subsequent equipment from clogging and improves performance. Overall, this requires redoing the concrete and gearing that is underwater.
- 3) **100 HP Pumps:** These pumps are essential to the equalization tank that was just redone a few months prior. This feeds the equalization tank with water, which holds two million gallons of water, so that the treatment plant does not become overran. These are in good shape and need not be replaced or repaired anytime soon.
- 4) **RBCs;** A rotating biological contactor (RBC) is a type of secondary (biological) treatment process. It consists of a series of closely spaced, parallel discs mounted on a rotating shaft which is supported just above the surface of the wastewater. RBCs allow the wastewater to come in contact with a biological film in order to remove pollutants in the wastewater before discharge of the treated wastewater to the Peckman River. Rotating biological contactors are capable of withstanding surges in organic load. To be successful, micro-organisms need both oxygen to live and food to grow. Oxygen is obtained from the atmosphere as the disks rotate. There are a total of 21 RBCs (12 high density and 9 low density). Of those, 7 were replace in 2013, 6 more were replaced in 2015, 1 was replaced in 2020 (emergency), 7 more need to be replaced.
- 5) **Secondary Clarifier:** much like the primary clarifier, the function is the same except that this is a secondary settling tank. This is used to remove treated wastewater from the primary treatment stage. The major task of the secondary clarifier is clarification and thickening. The performance of a wastewater treatment plant depends on the functioning of primary and secondary clarifiers. The solid remnants, sludge, is what the Township has removed multiple times per week by PVWC.
- 6) **Sand Filter:** this removes phosphorous and any suspended particles. This functionality is important because it can reduce the amount of chemical, we have to feed the plant with, which is growing exponentially and impacts the operating budget of the utilities.
- 7) **UV Disinfection.** Disinfects water and kills bacteria before discharge.
- 8) **Equalization Tank;** this project was recently completed where the tank's inner pipes were removed, the exterior was repaired, sandblasted, and painted, and the pumps were

## APPENDIX 7

recently replaced. This project was about fifteen years overdue but will not have to be revisited anytime in the next twenty five-fifty years.

- 9) **Digester: this is failing and is the costliest repair.** The digester process breaks down organics in the waste sludge, thereby reducing the overall quantity of sludge disposed of at PVSC. If these units are repaired, or replaced with a sludge thickening process, the quantity of sludge removed will greatly decrease, resulting in a decrease in our operating budget of the utility.
- 10) **Pump Stations:** Due to the critical nature of the major pump station equipment, this equipment is maintained regularly and replaced as needed. As a result, all pump stations are not in need of immediate repair and are functioning fine.

This is an immediate overview of the five (5) year capital plan for the sewer utility. Make no mistake, this is a lot of money. Eventually, all will be beyond repair and in drastic need of replacement. We can take a little bit at a time to achieve our goals, however, action is needed.

# APPENDIX 7

## FIVE YEAR CAPITAL PLAN WATER UTILITY

ITEM NO.	EQUIPMENT	EST COST	EST USEFUL LIFE * (yr)	AGE (yr)	CONDITION	EXPECTED REPLACEMENT (yrs)	FIVE YEAR ESTIMATED COST
1	Clubway Tank	\$500,000 (recoating)	25	8	Good	17	\$0
2	Eileen Drive Tank	\$500,000 (recoating)	25	4	Good	21	\$0
3	VFW Tank	\$500,000 (recoating)	25	2	Good	23	\$0
4	Pattern Terrace Tank	500,000 (recoating)	25	6	Good	19	\$0
5	Hydrants-512						
6	Valves-922						
7	System Meters-11						
8	Customer Meters		20	0	Some olds v3 to v4	20	

## SCHEDULED WATER MAIN REPLACEMENTS

STREET	Length	CONDITION	LIFE EXPECTANCY	ESTIMATED COST
Briarhill Road	1,500 linear feet	POOR	15 years over expiration	\$550,000
Monroe Street	1,400 linear feet	POOR	15 years over expiration	\$500,000
Young Avenue (lower portion)	650 linear feet	POOR	15 years over expiration	\$250,000
Donato Dr, Loretta Dr & Bergen Dr	6,000 linear feet	Transite Pipe	20 years over expiration	\$2,000,000

Consistent with state regulation, the Township seeks to replace one watermain every year. This year, we replaced Rutgers Avenue's watermain. In addition to the main, the Township repairs any services that are broken and replaces fire hydrants along the street to ensure they function properly. The Township will seek to continue the logical approach of doing this work before we pave any streets, which means the order may differ from what is set forth above and what needs to be accomplished in the future, however, it is planned for FY2024 that Briarhill's main will be replaced. Overall, the capital plan for water will consist strictly of main replacements, with the occasional vehicle insertion for replacement after its useful life, never to exceed roughly \$100,000.

If there are any questions, please do not hesitate to contact me.

JMZ

# APPENDIX 8

2023 Budget

03- 2022- 0001- 3210- 2- 29972	WATER DEBT SERVICE	Other Expense	NOTE PRINCIPAL	156,000.00
03- 2022- 0001- 3210- 2- 29973	WATER DEBT SERVICE	Other Expense	NOTE INTEREST	101,037.00
03- 2022- 0001- 3210- 2- 29978	WATER DEBT SERVICE	Other Expense	BOND PRINCIPAL	105,000.00
03- 2022- 0001- 3210- 2- 29979	WATER DEBT SERVICE	Other Expense	BOND INTEREST	58,688.00

04- 2022- 0001- 4210- 2- 29968	DEBT SERVICE	Other Expense	BOND PRINCIPAL	200,000.00
04- 2022- 0001- 4210- 2- 29969	DEBT SERVICE	Other Expense	BOND INTEREST	111,150.00
04- 2022- 0001- 4210- 2- 29972	DEBT SERVICE	Other Expense	NOTE PRINCIPAL	86,000.00
04- 2022- 0001- 4210- 2- 29973	DEBT SERVICE	Other Expense	NOTE INTEREST	84,537.00

# APPENDIX 8

**WATER UTILITY DEBT SERVICE - 2024 BUDGET  
ACCT# 3210**

SERIAL BONDS	DUE DATE	BALANCE	PRINCIPAL	INTEREST
	12/31/23	1,380,000.00		
SERIAL BONDS ISSUED 12-22-21 (REFUNDED 2013 BONDS)	02/01/24		110,000.00	29,900.00
SERIAL BONDS ISSUED 12-22-21 (REFUNDED 2013 BONDS)	08/01/24		-	28,250.00
<b>TOTAL</b>	<b>12/31/24</b>	<b>1,270,000.00</b>	<b>110,000.00</b>	<b>58,150.00</b>

BOND ANTICIPATION NOTES	DUE DATE	BALANCE	PRINCIPAL	INTEREST	ORIGINAL ISSUE
ORD. #14-773 VARIOUS WATER IMPROVEMENTS	07/02/24	145,000.00	12,546.30	6,434.38	07/30/14
ORD. #15-782 VARIOUS WATER IMPROVEMENTS	07/02/24	59,300.00	2,601.85	2,631.44	07/28/15
ORD. #16-794 VARIOUS WATER IMPROVEMENTS	07/02/24	312,400.00	9,581.79	13,862.75	07/26/16
ORD. #17-809 VARIOUS WATER IMPROVEMENTS	07/02/24	350,500.00	9,498.30	15,553.44	07/24/17
ORD. #18-828 VARIOUS WATER IMPROVEMENTS	07/02/24	475,400.00	9,564.38	21,095.88	7/17/19; 7/15/20
ORD.#19-843 VARIOUS WATER IMPROVEMENTS	07/02/24	371,400.00	8,588.05	16,480.88	7/17/19; 7/15/20
ORD. #20-858 VARIOUS WATER IMPROVEMENTS	07/02/24	194,000.00	6,000.00	8,608.75	07/15/20
ORD. #21-873 VARIOUS WATER IMPROVEMENTS	07/02/24	105,000.00	-	4,659.38	07/11/22
ORD. #22-893 VARIOUS WATER IMPROVEMENTS	07/02/24	70,000.00	-	3,106.25	07/11/22
<b>TOTAL</b>		<b>2,083,000.00</b>	<b>58,380.67</b>	<b>92,433.13</b>	

NOTES = \$2,083,000 @ 4.50%

\*Principal pay downs taken from 2022 AFS

# APPENDIX 8

**SEWER UTILITY DEBT SERVICE - 2024 BUDGET  
ACCT# 4210**

SERIAL BONDS	DUE DATE	BALANCE	PRINCIPAL	INTEREST
	12/31/23	2,555,000.00		
SERIAL BONDS ISSUED 12-22-21 (REFUNDED 2013 BONDS)	02/01/24		210,000.00	55,325.00
SERIAL BONDS ISSUED 12-22-21 (REFUNDED 2013 BONDS)	08/01/24		-	52,175.00
<b>TOTAL</b>	12/31/24	2,345,000.00	210,000.00	107,500.00

BOND ANTICIPATION NOTES	DUE DATE	BALANCE	PRINCIPAL	INTEREST	ORIGINAL ISSUE
ORD. #14-774 REHAB. SEWER SYSTEM	07/02/24	28,000.00	37,000.00	1,242.50	07/30/14
ORD. #15-781 VARIOUS SEWER UTILITY IMPROVE.	07/02/24	34,000.00	18,000.00	1,508.75	07/28/15
ORD. #16-795 VARIOUS SEWER UTILITY IMPROVE.	07/02/24	14,000.00	10,000.00	621.25	07/26/16
ORD. #17-810 VARIOUS SEWER UTILITY IMPROVE.	07/02/24	490,000.00	10,000.00	21,743.75	07/24/17
ORD. #18-827 VARIOUS SEWER UTILITY IMPROVE.	07/02/24	123,000.00	6,000.00	5,458.13	7/17/19; 7/15/20
ORD. #19-842 VARIOUS SEWER UTILITY IMPROVE.	07/02/24	223,000.00	3,000.00	9,895.63	7/15/20; 7/13/21
ORD.#20-857 VARIOUS SEWER UTILITY IMPROVE	07/02/24	280,000.00	8,000.00	12,425.00	07/13/21
ORD.#21-874 VARIOUS SEWER UTILITY IMPROVE	07/02/24	400,000.00	-	17,750.00	07/11/22
ORD.#22-894 VARIOUS SEWER UTILITY IMPROVE	07/02/24	214,000.00	-	9,496.25	07/11/22
<b>TOTAL</b>		<b>1,806,000.00</b>	<b>92,000.00</b>	<b>80,141.25</b>	

NOTES = \$1,806,000 @ 4.50%

40.00  
18.12

\*Principal pay downs taken from 2022 AFS  
\*\*Principal pay downs calculated by Phoenix

SEWER UTILITY FUND  
**DEFERRED CHARGES ACCT. #4900**

399.10 DEFERRED CHARGES	2024	Expended	Dept. Request	Manager	TCA
DOWN PAYMENT ON IMPROVEMENTS					

**APPENDIX 9**

**PROXIMATE MUNICIPALITY COMPARISONS**

Fee or Rate Category	Montclair	Fairfield	North Caldwell	Cedar Grove
<b>WATER RATES</b>				
Water Rates (Base)	(1"):0>7,500 gpm= \$34	0>15,000 gpm = \$66.50	Flat rate per 1,000gpm = \$7.00	Flat rate per 1,000 gpm = \$5.00
Water Rates (Base)	(>1"): 0>100,000 gpm = \$4.12 per 750 g			
Water Rates (Additional)	(1"):7,500>24,700 gpm = \$3.74 per 750 g	>15,000 gpm = \$5.65 per 1,000 g		
Water Rates (Additional)	(1"): >24,700 gpm = \$4.12 per 750 g			
Water Rates (Additional)	(>1"): >100,000 g - \$4.46 per 750 g			
Comparison Cost - Billing for 120,000 gpm	(1") \$643.28 / (>1") \$668.26	\$659.75	\$840.00	\$600.00
<b>CONNECTION FEES (Cost for Connection &amp; Capital Contibution)</b>				
Single Family Home	\$2,000	\$450 - \$700	N.A.	\$4,000
Commercial / Industrial	\$1,900 - \$914,281	\$850 - \$1,250	N.A.	\$4,000
Installation Fees	\$450 - \$817+	\$400 - \$600	N.A.	\$900 - \$1,200
<b>METER FEES</b>				
Fees for Installation of Water Meters - Based on Meter Size	\$25 - \$4,967	\$295 - \$1,975	\$495 - \$\$5,100	\$300 - TBD
<b>MISCELLANEOUS FEES</b>				
Meter Tests	N/A	\$75	\$50	\$150
Final Water Meter Reading	N/A	\$10	\$100	\$150
Shut Off / On Service	\$20	\$100	\$100 - \$200	\$150
Sprinkler Systems	\$27.30 - \$257.40 / quarter	\$155 / quarter	N/A	\$150 / quarter
Temporary Service during Construction	\$100 & Water Use Charges	Water Use Charges - Minimum \$75 / quarter	N/A	\$1,200 for 6 mo. / \$600 each quarter thereafter
<b>SEWER RATES</b>				
Connection Fee	\$1,600 - \$1,612,305	\$1,130	\$50	\$2,500 /100,000 gpy
Capacity Fee	\$236.73 - \$23,669.99 / annum	\$160 - \$199 / quarter	\$800	N.A.
Treatment Fee	TBD	>15,000 g: \$17.50/1000 g / quarter	\$225 / year Tax Exempt: \$715 / year	>20,000 g = \$90 quarterly 20,000 g > = \$7.35 / 1000 g quarterly