THE TOWN OF MOUNT AIRY WATER & WASTEWATER SYSTEM

A CIP OVERVIEW AND RATE STUDY

AGENDA

1. What is a CIP?
2. What this presentation covers
3. Capital Expenses - Water System
4. Capital Expenses - Sewer (Wastewater) System
5. Operational Expenses – Both Water & Sewer
6. Water & Sewer (W&S) Reserves
7. Water & Sewer Revenue
8. Water & Sewer Rates
9. Q&A

WHAT IS A CIP?

Short for a Capital Improvement Plan, it includes 3 parts for Town: General, Water, & Sewer.

It's a summary listing of large capital items/infrastructure owned & maintained by the Town.

It identifies costs to replace, overhaul, and/or refurbish major capital items.

It provides past & future schedules when these costs have & are anticipated to occur.

Purpose: Provide a brief overview to the Town Council and to interested citizens regarding the Town's Capital Infrastructure and costs associated with determining needed revenues.

What this presentation covers: In the interest of providing a simplified understanding of the Town's water & wastewater system we will take a bird's eye approach and categorize only the major infrastructure, or large capital items, of the Town. Small capital items of $100k or less will be referred to but not described in detail.

What are Capital Items?

....a long-term asset with a useful life of more than one year that is used to generate income or is crucial for a business's or individual's operations.

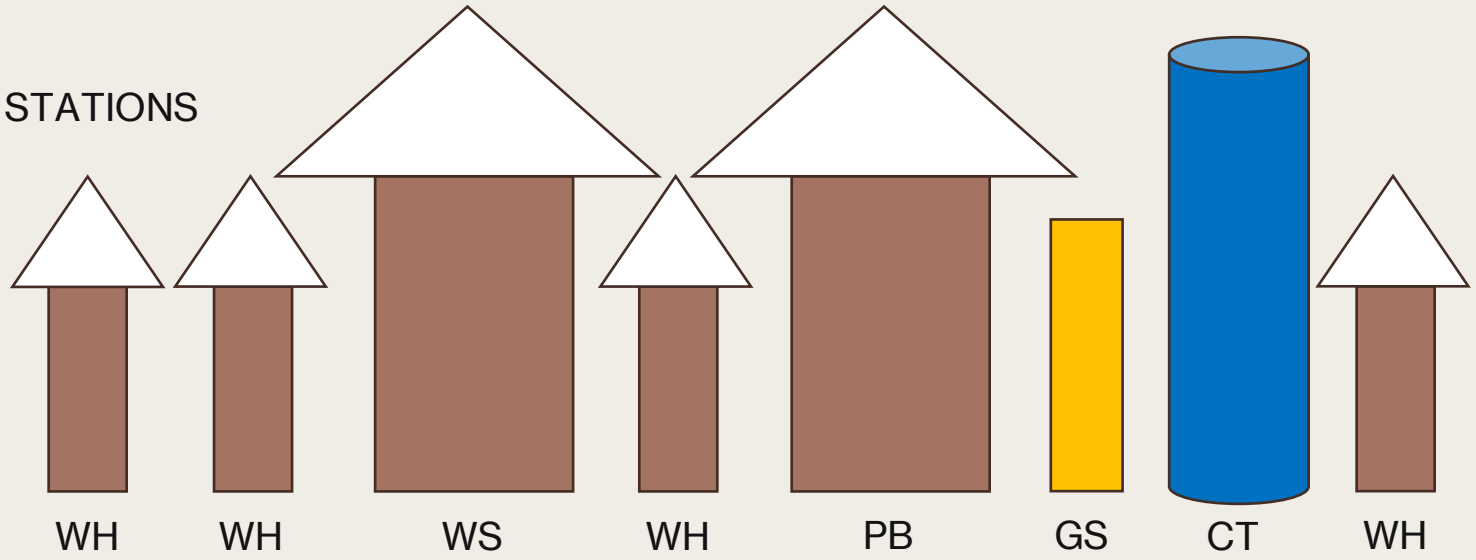
....in short, it is all of the Town's large assets.

CAPITAL EXPENSES - WATER

TOWN OF MOUNT AIRY

WATER SYSTEM

LARGE CAPITAL ITEM #1 – WATER STATIONS



Water Station #1 consists of:

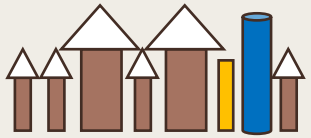
- Water station building w ancillary piping, controls, pumps, chemical systems, tanks, etc. ($1.2M)
- 4 wells/wellhouses w conduit, power, controls (4x$250k)
- Generator set w engine & auto transfer switch ($150k)
- Contact tank ($150k)
- PFAS building w piping, tanks & controls ($1.0M)
- Parcel of land ($500k)

Breakdown example of a large capital item.

TOWN OF MOUNT AIRY

WATER SYSTEM

LARGE CAPITAL ITEM #1 – WATER STATIONS



Identifier

WS#1, 50yr
$40k/yr
2006/2056

Life Cycle, or the General Number of Years before Needing an Overhaul or Replacement

The Next Anticipated Year for an Overhaul or Replacement

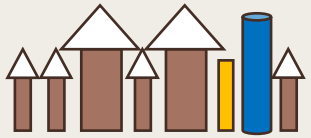
The Total Overhaul or Replacement Cost Divided by Life Cycle in Years

The Latest Year an Overhaul or Replacement was Completed

TOWN OF MOUNT AIRY

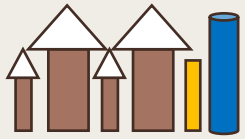
WATER SYSTEM

LARGE CAPITAL ITEM #1 – WATER STATIONS

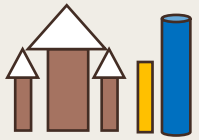


WS#1, 50yr
$40k/yr
2006/2056

WS#2, 50yr
$40k/yr
2015/2065



WS#3, 50yr
$40k/yr
2011/2061



WS#4, 50yr
$40k/yr
1995/2045

WS#5, 50yr
$40k/yr
2004/2054

LARGE CAPITAL ITEM #2 – WATER DISTRIBUTION SYSTEM

Water Distribution System consists of:
- 58 miles pipeline (58x$2M)
- Gate valves (1,176x$2k)
- Fire hydrant (393x$4k)

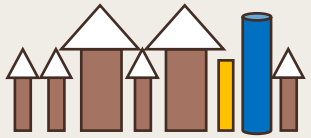
Total Replacement Cost = $120M
Life Cycle = 70-100 years
Average Annual Planning Cost = $1.2M/yr
(approx. 1/3rd is 50+ years old = $400k/yr)

Miles of Water Pipe installed:
0-10 years ago, 2 miles (BM, Prospect Rd, Center St)
10-20 yrs ago, 3 miles (Main Street, Ridgeville Heights)
20-30 years ago, 15 miles (SR, Not, Wildwood, SG)
30-40 years ago, 20 miles (TR, VG, WK, Turnberry, TV, NT)
40-50 years ago, 2 miles (East & West, Conestoga)
50-60 years ago, 2 miles (FA)
60-70 years ago, 4 miles
70-80 years ago, 4 miles (Park & Ridge Ave, Warfield)
80-90 years ago, 4 miles (Flower, Ridgeville, Park View)
90+ years ago, 4 miles (DTZ, Church St, S/N Main)

TOWN OF MOUNT AIRY

WATER SYSTEM

LARGE CAPITAL ITEM #1 – WATER STATION REPLACEMENTS



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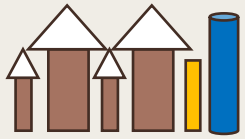

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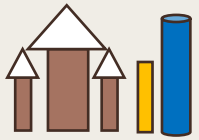


WS#4, 50yr
$40k/yr
1995/2045

WS#5, 50yr
$40k/yr
2004/2054

LARGE CAPITAL ITEM #2 – WATER DISTRIBUTION SYSTEM

WD, 100yr
$400k/yr
Prior to 1975

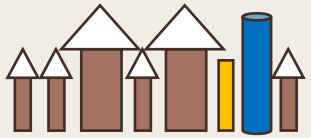
LARGE CAPITAL ITEM #3 – ELEVATED WATER STORAGE TANKS

ET#1, 160yr replace
20yr refurbish (encapsulate, repairs, blast, repaint)
Total Refurbish Cost $600k
Average Annual Planning Cost = $30k/yr
Installed 1959
2019/2039

TOWN OF MOUNT AIRY

WATER SYSTEM

LARGE CAPITAL ITEM #1 – WATER STATION REPLACEMENTS



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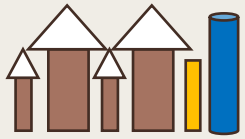

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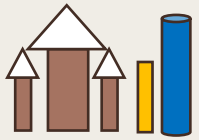

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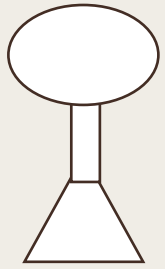
LARGE CAPITAL ITEM #2 – WATER DISTRIBUTION SYSTEM

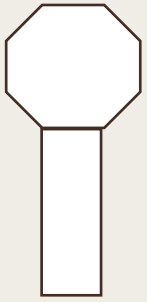
WD, 100yr
$400k/yr
Prior to 1975

LARGE CAPITAL ITEM #3 – ELEVATED WATER STORAGE TANKS

ET#1, 20 yr
$30k/yr
2019/2039



ET#2, 20 yr
$30k/yr
2022/2042



ET#3, 20 yr
$40k/yr
2005/2025

WATER COSTS SUMMARY

Water Station Replacements/Overhauls

5x$40k/yr = $200k/yr

Water Distribution System

$400k/yr

Elevated Tank Refurbishments

$100k/yr

Small Capital / Equipment

$14k/yr

Average Water Capital Expenses

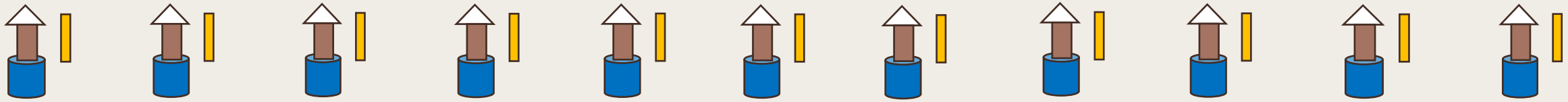
$700k/yr (Fact #1)

CAPITAL EXPENSES - SEWER

TOWN OF MOUNT AIRY

SEWER (WASTEWATER) SYSTEM

LARGE CAPITAL ITEM #1 – SEWER PUMP STATIONS



SPS#1,50yr $18k/yr 1972/2022

SPS#2,50yr $18k/yr 1972/2022

SPS#3,50yr $18k/yr 1972/2022

SPS#4,50yr $18k/yr 1972/2022

SPS#5,50yr $18k/yr 1972/2022

SPS#6,50yr $18k/yr 1972/2022

SPS#7,50yr $18k/yr 1985/2035

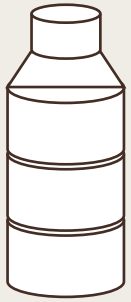
SPS#8,50yr $18k/yr 1994/2044

SPS#9,50yr $18k/yr 1999/2049

SPS#10,50yr $18k/yr 2001/2051

SPS#11,50yr $18k/yr 2009/2059

LARGE CAPITAL ITEM #2 – SEWER COLLECTION SYSTEM



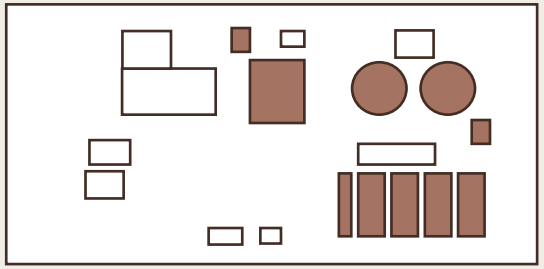
MH's, 40yr
$45k/yr
REHAB

Pipe, 40yr
$80k/yr
I&I REHAB

Miles of Sewer Gravity Pipe installed:
0-10 years ago, 2 miles
10-20 yrs ago, 4 miles
20-30 years ago, 12 miles
30-40 years ago, 16 miles
40-50 years ago, 2 miles
50-60 years ago, 16 miles

Miles of Sewer Force Main installed:
10-20 years ago, 1 mile
20-30 years ago, 1 mile
30-40 years ago, 1 mile
50-60 years ago, 2 miles

LARGE CAPITAL ITEM #3 – WASTEWATER TREATMENT PLANT



WWTP, 100 yr
$260k/yr
1989/2089

SEWER TOTAL COSTS

Sewer Pump Station Replacements/Overhauls

11x$18k/yr = $191k/yr

Sewer Collection System

$125k/yr

Wastewater Treatment Plant

$260k/yr

Small Capital / Equipment

$14k/yr

Average Sewer Total Expenses

$590k/yr (Fact #2)

OPERATIONAL EXPENSES – BOTH WATER & SEWER

W&S Operational Expenses

Operational expenses generally have a more consistent cost that increases with the inflation of the industry.

These costs include payroll, chemicals, small equipment replacements and repairs, fuel, network systems, certifications and trainings, utility bills, etc.

WATER & SEWER OPERATING/TOTAL EXPENSES

Fact #3: The W&S operating budget actual expenses for the past 10 years has steadily climbed from:

FY2014 $2,068,834 to FY2024 $2,801,507 or 3.0% annually

Adding 3% annually to FY2024 anticipates a FY2026 operating actual to be around $2,972,118. Adding to the recommended capital costs is:

FY2026 Total Expenses = $2,972,118 + $700,000 + $590,000
$4,262,118

Total W&S Expenses for the out years at 3.0% annual increase:

2027 $4,389,982	2028 $4,521,681	2029 $4,657,332	2030 $4,797,052
2031 $4,940,963	2032 $5,089,192	2033 $5,241,868	2034 $5,399,124

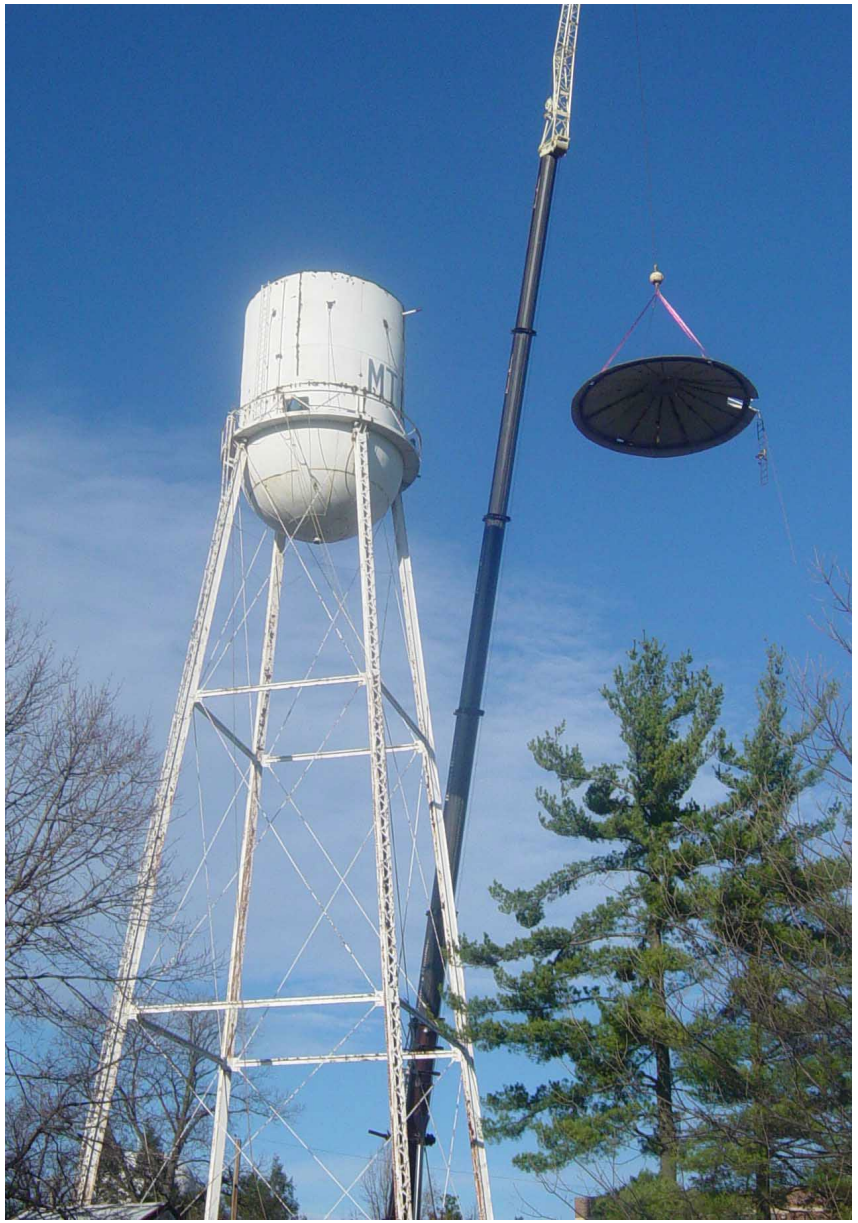
WATER & SEWER RESERVES

Water & Sewer Reserves

The Water & Sewer Reserves is an available collection of funds to be used in emergency or larger than expected refurbishments to help offset excessive capital costs.

It is recommended the Town maintain a minimum amount of Water & Sewer Reserves equal to one full year's budget of Total Water & Sewer Expenses.

Developer impact fees are the primary source for the reserve accounts. When these reserves exceed the Town's minimum amount those extra funds can be used towards normal capital overhauls and replacements.

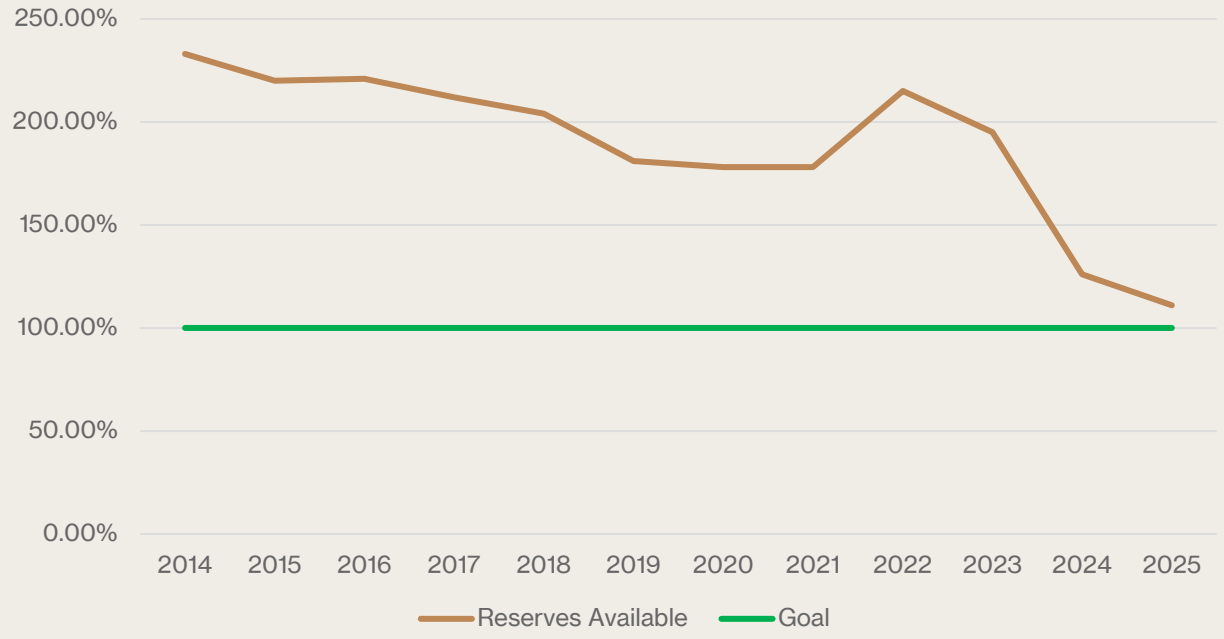


What is History of Water & Sewer Reserves?

The Total W&S Reserves dropped from 2.3 times the Total 2014 W&S Budget down to only 1.1 times the Total 2025 W&S Budget.

It raised for a few years in between thanks to the American Relief Plan, or ARPA, funding though it dropped again as the Town was required to spend those grant funds.

FACT #4:
Starting the end of this fiscal year, FY2026, will be the first year in the past 30+ years the Town will have less than a year's worth of W&S reserves.



WATER & SEWER REVENUE

Water & Sewer Revenue

Why does the Town's End-of-Year Audit Report continued to say "Careful planning will be the key to determining how to fund the ongoing capital projects for which the reserves have historically been used."

The billed water revenue for Mount Airy has not changed drastically and therefore is not keeping up with inflation. Over the past 10 years the Town's total W&S revenue has averaged -0.5% change where our expenses has averaged 3.0%. Some factors causing the negative revenue include lack of annual rate increases, decreased development, and minimal change in water usage.

The total W&S revenue for the Town is primarily from W&S billing and with significantly decreased reserves the W&S revenue MUST cover costs of all operating & capital maintenance expenses.

Water & Sewer Revenue

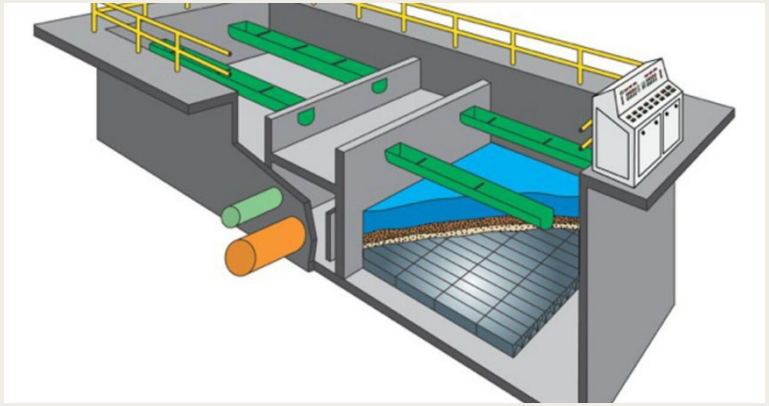
Fact #5: The Total W&S Revenue (operating & capital) has decreased by 0.5% over the past 10 years. Taking away grant projects and comparing to actual operating and recommended capital expenses the revenue shortfall has been increasing during the past 10 years:

FY2014	$76,589	FY2020	$(711,878)
FY2015	$(359,601)	FY2021	$(337,766)
FY2016	$(521,358)	FY2022	$(871,942)
FY2017	$(640,791)	FY2023	$(1,050,454)
FY2018	$(630,539)	FY2024	$(1,184,457)
FY2019	$(801,606)	TOTAL '14-'24	$(7,033,803)

Fact #6: With these shortfalls the Town still completed the recommended amount of W&S CIP during the same 10 years thanks to ARPA Funding towards W&S, $7,222,075. **This was a "once in a lifetime" help towards existing infrastructure which cannot be relied on moving forward.**

What W&S projects were paid by ARPA or State/Federal funds?

WWTP Enhanced Nutrient Removal (ENR) Upgrade (New EPA Rule)



WWTP Lab Upgrade (ARPA)

I&I

Water Meter Replacements (ARPA)

Water Mains: Center/Cross Sts, Rockwell/Bellview Aves, Prospect Rd (ARPA)

PFAS Upgrades (New EPA Rule)

WATER & SEWER RATES

Rate Structure vs Rate Increase

- **The Town has an existing rate structure. It includes both a base rate & tiered rates.**
- **The base rate is: $68 (Town Portion) + $15 Bay Restoration Fee (State Portion)**
- **The Town portion includes $25 water, $28 sewer, and $15 system benefit charge**

- **The water tiered rates are:**

The following rates shall be applied to all water consumed on a quarterly basis effective September 1, 2023:

(1) A flat service fee of $25 will be charged to each consumer connected to the system.

(2) On the first 6,000 gallons consumed, the rate charged will be $2.50 for each 1,000 gallons.

(3) On the next 6,000 gallons consumed (to a total of 12,000 gallons), the rate charge will be $4.57 for each 1,000 gallons.

(4) On the next 8,000 gallons consumed (to a total of 20,000 gallons), the rate charge will be $5.09 for each 1,000 gallons.

(5) On the next 20,000 gallons consumed (to a total of 40,000 gallons), the rate charge will be $7 for each 1,000 gallons.

(6) On the next 20,000 gallons consumed (to a total of 60,000 gallons), the rate charge will be $7.24 for each 1,000 gallons.

(7) For all gallonage in excess of 60,000 consumed, up to 80,000, the rate charge shall be $8.32 for each 1,000 gallons.

(8) For all gallonage in excess of 80,000 consumed, the rate charge shall be $9.38 for each 1,000 gallons.

- **The sewer tiered rates are:**

These rates shall be a quarterly charge for sewer use effective September 1, 2023:

(1) A flat service fee of $28 will be charged to each customer connected to the system.

(2) For the first 6,000 gallons consumed, the rate chargeable shall be $ 3.25 for each 1,000 gallons.

(3) On the next 14,000 gallons consumed (to a total of 20,000 gallons), the rate charge shall be $3.70 for each 1,000 gallons.

(4) On the next 20,000 gallons consumed (to a total of 40,000 gallons), the rate charge shall be $4.75 for each 1,000 gallons.

(5) On the next 20,000 gallons consumed (to a total of 60,000 gallons), the rate charge shall be $5 for each 1,000 gallons.

(6) On the next 20,000 gallons consumed (to a total of 80,000 gallons), the rate charge shall be $5.25 for each 1,000 gallons.

(7) The rate charge in excess of 80,000 gallons consumed shall be $5.50 for each 1,000 gallons.

Rate Structure vs Rate Increase

- **Proposed Ordinance changes only part of the rates ➔ Rate Structure change!**
- **Rate Structure change ➔ Lots of things to consider like: impacting some residents more than others and not bringing in the full % of revenue. Impacting the highest tiers also will affect businesses like Lorien, Health Unlimited, car washes, etc.**
- **Overall Rate Increase ➔ Avoids the question why the Structure is being changed and whatever rate increase the Town Council chooses is precisely the amount of revenue increase the Town will see.**

Expenses Moving Forward

Recap: the Total W&S Expenses over the next 5 years is $23,307,010 (FY2027 through FY2031).

Projected 5-year Revenue:	Total Revenue	Anticipated Excess Funds
No Rate Change	= $13,814,736	$(10,492,274)
10% Annual Rate Increase	= $18,664,097	$(5,642,913)
15% Annual Rate Increase	= $21,510,492	$(2,796,518)
20% Annual Rate Increase	= $24,732,522	$425,512
25% Annual Rate Increase	= $28,369,717	$4,062,707

Fact 7: A 20% annual rate increase for 5 years will bring the Town back into schedule and will bring the reserves back to one year supply of $4,950,063.

Fact 8: A 15% annual rate increase for 5 years will bring the Town back into schedule and deplete reserves to less than half year supply.

What will a rate increase look like to the consumer?

An overall rate increase (no change to rate structure) will increase the total bill by that percentage annually less the $15 Bay Restoration Fee.

Examples of Bill Increases:

	Current Bill FY2026	15%	20%
FY2027	$100	$112.75	$117.00
	$200	$227.75	$237.00
FY2028	$100	$127.41	$132.30
	$200	$259.66	$270.30
FY2029	$100	$144.27	$149.90
	$200	$296.36	$308.60
FY2030	$100	$163.67	$170.13
	$200	$338.57	$352.63
FY2031	$100	$185.97	$193.40
	$200	$387.10	$403.28

10-Yr Anticipated Capital Projects

Water System

FY27-28: PFAS Projs ($8M, Fed funded)

FY27-28: Elevated Tank #3 ($800k)

FY29-30: Well Overhauls ($620k/yr)

FY31: WS #2/3 Contant Tanks ($500k)

FY32: WS #2 Supply Main ($400k)

FY33: Well #6 Raw Line/Feed ($1.0M)

FY34-35: Park Ave Water Main ($1.8M)

Sewer System

FY27-28: WWTP MCC/Elec ($750k)

FY27-FY35: I&I Pipe Linings ($80k/yr)

FY29-30: SPS Overhauls ($900k)

FY29-FY31: Manhole Rehabs ($45k/yr)

FY32: WWTP Belt Press ($600k)

FY33-34: Park Ave Sewer Main ($2.5M)

FY36: WWTP Canopies ($700k)

W&S Rates – Forward Thinking Beyond 5 Years

Benefits of implementing automatic W&S rate increases:

- Financial stability for W&S Fund.
- Avoid rate shock when the Town doesn't raise rates for 10+ years.
- Eliminates political impact to making adjustments.
- An overall, automatic fixed rate increase of 3% is recommended with less frequent needs to make adjustments in future.

The conclusions of this rate study were made in collaboration with:

- Engineering
- Planning
- Accounting
- Public Works
- Water & Sewer
- Town Administrator
- Mayor

Questions?