

INTRODUCTION

Effectively managing complex utility systems requires a highly efficient structure of interconnected infrastructure and competent and trained personnel. Deciding upon the most strategic approaches for these purposes requires thoughtful planning and collaboration. This includes a combination of a periodic reevaluation of current operations, infrastructure assessment and customer user fees to support future operations and capital expenditures to meet stringent environmental requirements. To continue to be a leader amongst our peer cities in the State of Indiana, the City of Valparaiso’s utility planning process requires this thoughtful evaluation by the City Administration, Utilities Board of Directors, VCS Leadership Team and the Common Council.

A certain number of Valparaiso water and wastewater treatment process units and conveyance systems within the City of Valparaiso (City) are between 35 to 60 years of age, which does not include ground infrastructure of which 1/3 of this infrastructure is greater than 50 years of age and are nearing the end of operational effectiveness. As a part of strategic planning and master plan studies, the Valparaiso City Utilities (VCU) Board of Directors initiated engineering designs in 2022 with their consultants (Arcadis US, Inc., DLZ and Stantec, Inc.) in order to finalize construction plans for major improvements at the City’s water and wastewater utilities. These efforts are to ensure the ongoing modernization of utility facilities and conveyance systems, environmental sustainability, and regulatory compliance.

As we move forward in finalizing and prioritizing these important capital projects, Valparaiso City Services assembled a team to discuss and determine the long-term infrastructure needs of the City’s water and wastewater systems. The goal is to continue to provide safe, reliable and uninterrupted services at a competitive cost to our community while supporting responsible growth and maintaining compliance with environmental requirements.

DESCRIPTION OF PROJECTS TO BE FUNDED BY BONDS

WATER PHASE II & PHASE III

1. Construction of up to **7 new wells** in various locations to replace aging wells, provide redundancy plus enhance and maintain capacity.
2. **Transmission mains** for associated wells.
3. **Pressure Filters** – Replacement of up to 4 pressure filters at the Airport Water Treatment Plant (1960s and 1970s). Structural and electrical modifications. Includes instrumentation and controls.

Water Improvements: \$17.5 Million



The Projects “Water”

PURPOSE OF ORDINANCE No. 29, 2022

- Engineering and construction of additional improvements to the City’s Waterworks
- Construction of up to 7 New Wells & Transmission Mains
- Construction of up to 4 New Pressure Filters
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Phase II Installations & Future Installations

- Production Wells
- Potential New Water Main
- Potential Sanitary Outfall Area

Phase II Installation & Flint Lake

Phase III Country Club Wells Replacement

Airport Filters Replacement

Purpose of the Project:

- Remove iron and manganese from the well water
- Two filters installed in the 1960s, have a 2017
- Location and access inside the filter bank
- Many issues in the past years
- Other Cost of ownership is not economically feasible

Benefits (Operational)

- Remove iron and manganese from the well water
- Two filters installed in the 1960s, have a 2017
- Location and access inside the filter bank
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- Phase II & Phase III Improvements

- ✓ Phase II (4 Wells Complete)
- ✓ Phase III
- ✓ Country Club Wells
- ✓ SCADA Controls
- ✓ Airport Filters

- Benefits

- ✓ Increase & Sustain Water Capacity
- ✓ Redundancy
- ✓ Filters (Aging – Water Quality)
- ✓ Upgrade Operational Communicatons

WASTEWATER

1. **Improving aeration with new blowers, diffusers, and mechanical mixing** for both the north and south aeration tanks. The existing system is over 35 years old, is oversized and not efficient. The piping and diffusers were constructed in the 1980s and demonstrate signs of failure. The new system will reduce energy cost for the utility by reducing the blower electrical use and maintain NPDES permit compliance for the facility.
2. **Tertiary Filters** – Replace the existing deep bed sand filters with a cloth media system. The existing filters are failing and have a limited capacity of 13.5 MGD. The new filter system will provide increased capacity to 22.5 MGD, reduce recycle flow volume thus reducing energy, reduce head loss across the process, reduce O&M costs, improve water quality, and meet NPDES permit compliance.
3. **Waste Activated Sludge (WAS) thickening system.** The existing Dissolved Air Flotation (DAF) system is at the end of its useful life (constructed in the 1980s) and will be replaced by a new centrifuge system. Thickened sludge is necessary prior to introduction into the facility’s anaerobic digesters as it reduces volume and improves the digestion process.
4. **Anaerobic Digesters** treat and condition the sludge byproduct and convert the material into a Class B biosolid that can be recycled as fertilizer. The floating covers are the original covers from the 1950s and 1970s and the associated piping and mixing systems need to be replaced.
5. **Supervisory Control and Data Acquisition System & Instrumentation.** The existing SCADA System is no longer supported by the vendor and provides minimal remote control. Most of the plants are controlled manually on a local level. The upgraded system would allow operators to perform more monitoring, data gathering, and operational control.
6. **Electrical** - Improvements to the aging electrical system including the main electrical service replacement, motor control center upgrades, and automatic transfer switch replacement.
7. **Pipe Gallery/Roof** - Refurbishment/replacement of the pipe gallery due to structural failure. This will extend the useful life of the system and address any potential safety hazards.
8. **Major Regional Lift Station** – Construction of new regional pump station and associated force main constructed in the 1980s as the current design (tin can) is old, requires confined space and is experiencing high maintenance costs.

The Projects “Wastewater”



- Replace Aging Process Units 35-60+ Year of Age
- ✓ Failures
- ✓ Corrosion
- ✓ Inefficiency “Power”
- ✓ Structural Issues
- ✓ Instrumentation & Control
- ✓ Electrical Systems
- Benefits
- ✓ Environmental Stewardship
- ✓ Maintain Compliance IDEM/EPA
- ✓ Increase Capacity “Same Footprint”
- ✓ Redundancy
- ✓ Optimize Operations
 - ✓ Communications
 - ✓ Energy Savings



Wastewater Plant Improvements: \$46 Million
Sturdy Road Regional Pump Station & Pipe: 15.3 million

VCU continues to advance Valparaiso’s quality of life by investing in aging infrastructure. Aging infrastructure and the financing of capital improvements are the biggest challenges utilities face. Proper stewardship of our assets is of the utmost importance to VCU. As a public utility, VCU’s most important obligation is to our ratepayers. Projects will continue to be evaluated from an economic, social and environmental perspective in addition to their life cycle needs.

EFFECT TO WATER AND SEWER RATES

What do my rates pay for?

Utility rates fund operations, maintenance, repairs, debt payments, emergency reserves, and **forward-looking capital improvement projects.**



WATER

- 232 Miles of Pipe
- 7 Towers/Reservoirs
- 24 Production Wells
- 1500 Fire Hydrants
- 3600 Isolation Valves
- 2 Major Water Treatment Plants
- 1.8 Billion Gallons of Water/Year

SEWER

- 359 Miles of Pipe
- 38 Pump Stations
- 4500 Manholes
- 1 Major Wastewater Treatment Plant
- Land Application Program
- 1 Combined Sewer Treatment Facility
- 8417 Storm
- 2.1 Billion Gallons of Wastewater/Year



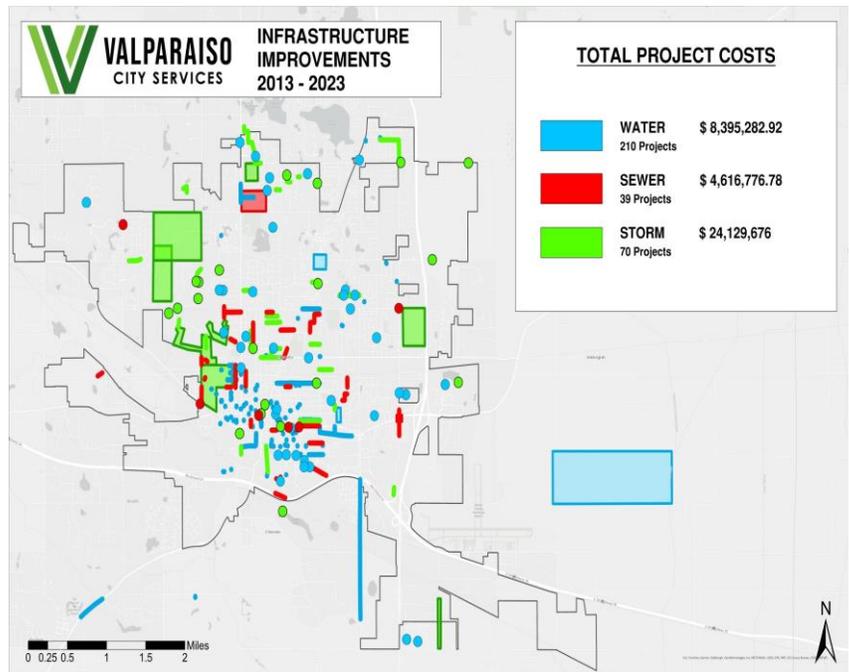
Aging Infrastructure Investment

The City has been investing rate payer dollars into aging infrastructure to achieve the following:

- ✓ Improve Quality of Life
- ✓ Environmental Stewardship
- ✓ Meet Federal & State Regulations
- ✓ Significantly Reduce Basement Backups and Flooding
- ✓ Reduce Combined Sewer Overflows and Events
- ✓ Reduce Service Interruptions
- ✓ Reduce Energy Use

\$37 Million of assets rehabilitated in the last 10 years “in the ground”

- Water & Sewer Mains
- Manholes/Valves/Fire Hydrants
- Sewer Separation & Stormwater Projects



PRIMARY DRIVERS FOR WATER AND WASTEWATER RATE ADJUSTMENTS

The last rate adjustment for both utilities was adopted in 2013, with the final phase effective on January 1, 2016. Higher operating costs are expected to continue due to a number of factors beyond VCS's control. This includes the following:

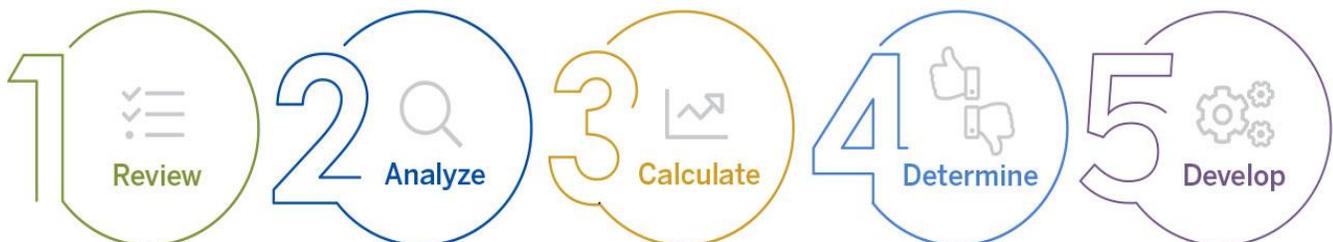
- ✓ Continued inflation and supply chain issues impacting many facets of operations.
 - Fuel & Chemicals
 - Insurance
 - Electric and Natural Gas
 - Materials & Supplies
- ✓ Continued salary and wage pressure in a very constrained labor market.
- ✓ Capital Improvements
- ✓ Continued regulations and treatment standards drive sustaining operating requirements. These increased regulations are almost always unfunded mandates.

RATE STUDY

Due to these drivers, it is common practice for utilities to engage in rate studies. There are distinct benefits of rate studies to our community:

1. Determining municipal utilities revenue requirements (aka cost) are foundational to setting the overall level of utility rates that need to be applied and charged to users. This provides VCS with adequate and sustainable funding levels for operations, maintenance, capital improvement expenses and servicing debt payments, as well as a basis for annual budgeting.
2. Revenues are the lifeblood of every municipal utility. Without adequate revenues, the quality of service often deteriorates due to a lack of proper maintenance and system improvements. A lack of revenue also makes it extremely difficult for the VCS to be financially and operationally sustainable. Additionally, revenue stability and predictability prepare the VCS for long-term success. Revenue stability and predictability also help identify when the organization should act to meet these needs, consistent with our capital improvement plan.
3. Utility rate studies make it possible for the City Administration and VCU Board of Directors to review our current rate structure and provide a rate model that is justifiable to the public and meets the specific rate design objectives needed to maintain and grow our utility.

The VCU Board of Directors engaged a rate consultant, Baker Tilly to review, analyze, calculate, determine and develop a rate model that will justify and support the needs of the VCS operations and capital improvement needs for the City.



VALPARAISO CITY SERVICES – UTILITIES
2024 Water and Sewer Project & Rate Case Summary

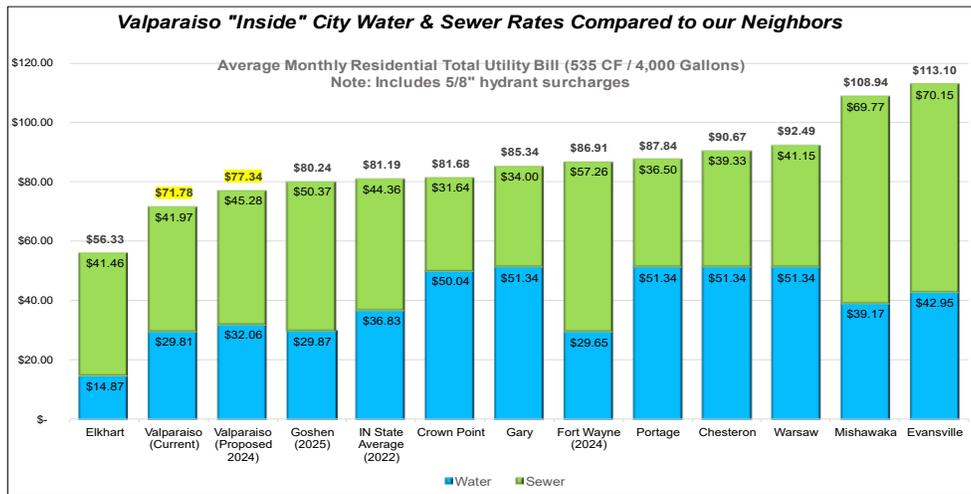
PROPOSED RATES

Valparaiso’s current average monthly “utility” bill (water and sewer rate) is \$71.77 per month and below the 2022 State of Indiana Average of \$81.19 per month. The average monthly utility bill is based upon an average household use of 4000 gallons per month.

The tables below provide an estimate of how rates may be affected based upon the following criteria:

1. Proforma Cash Operating Expenses and Inflation
2. 5 Year Capital Plan and providing additional funding for Aging Infrastructure
3. Estimated debt service payments to assure there are sufficient revenues and debt service coverage.
4. Reduction of 5 month sprinkling credits to 3 months – Water Conservation
5. Outside City surcharge. Outside City customer rates would be higher than the Inside City rates shown in the chart below by the following percentage:
2024 – 14.9%

COMMUNITY RATE COMPARISONS VS. STATE AVERAGE



8% increase for Phase 1 sewer and water rates from current rates

1

PROPOSED PHASED YEARLY IMPACT "INSIDE OF CITY USERS" 2024 – 2028

Average Monthly Bill with Current Rates

Billing Details

Water	\$29.81
Sewage	\$41.97
Tax	\$ 1.19
Stormwater	\$12.50
Trash	\$19.50



\$71.78

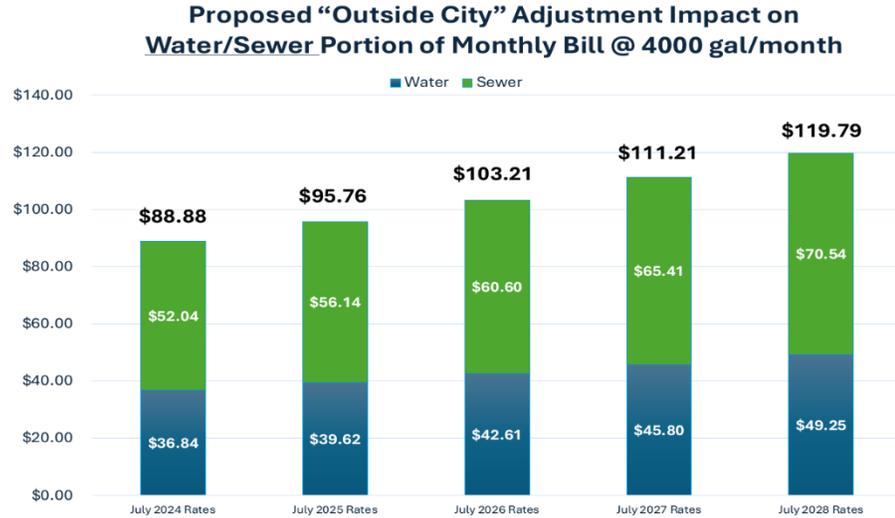


PROPOSED PHASED YEARLY IMPACT “OUTSIDE OF CITY USERS” 2024 – 2028

Typical Bill with Current 2024 Rates

Billing Details

Water	\$29.81
Sewage	\$41.97
Tax	\$ 1.19
Stormwater	\$12.50
Trash	\$19.50

KEY DATES – PUBLIC MEETING SCHEDULE

1. VCU Board of Directors Meeting - Project and Rate Presentation - March 12, 2024 @ 5:00 pm
2. City Council Public Presentation (Projects and Rates) – Open House of Exhibits @ 4:45 pm and public presentation at 6:00 pm (No Action by the City Council)
3. City Council 1st Reading of Rate and Bond Ordinances; Public Presentation (Projects and Rates) April 8, 2024
4. City Council Public Summary Project & Rate Presentation; Public Hearing and Final Vote - April 22, 2024
5. Proposed Implementation of Phase I rate adjustment for water and sewer – July 2024

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