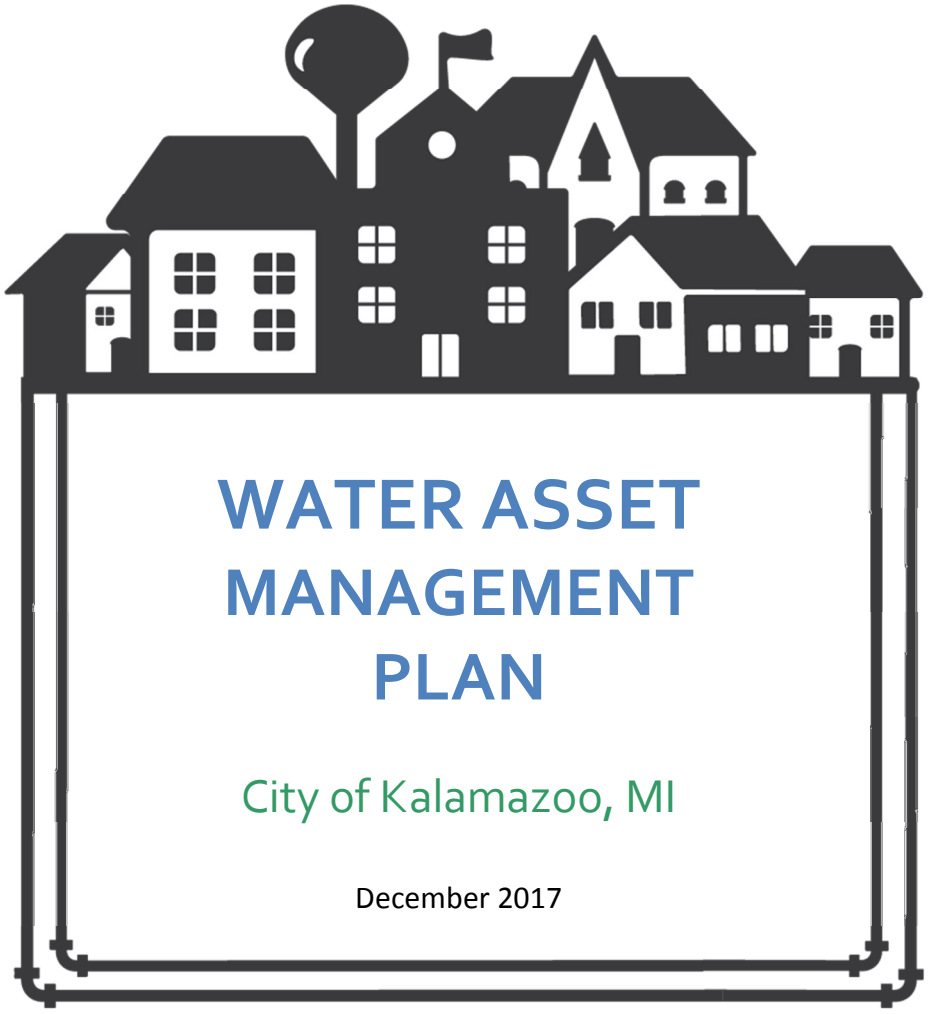


WATER ASSET MANAGEMENT PLAN

City of Kalamazoo, MI

December 2017

Where we're going: System Goals



INTRODUCTION

About this Document

This document is our Water Asset Management Plan. It defines the goals and guiding principles for our asset management activities. With input from our community, the Asset Management Plan will be maintained through a joint effort of our staff, administration, and elected officials. We will update our Plan on a 5 year schedule to ensure its relevancy and effectiveness.

A companion document, our Water Asset Management Program, shows how we will apply the principles of asset management to achieve the goals outlined in this Asset Management Plan.

Our Commitment

Our community water system is a complex set of components that we operate and maintain in a way that provides us with clean and reliable drinking water. That system includes assets such as wells which supply our water, a water treatment plant which filters and purifies the water, tanks which provide storage, and a pipe network which distributes our water. As members of our community, each one of us helps pay for the operation, maintenance, and replacement of those system assets through our utility rates. In effect, we are all owners of the water system. As the system owners, we commit to proactively manage our system assets and make decisions based on long term lifecycle cost.

Asset Management Principles

All infrastructure deteriorates with age and requires proactive management to operate, maintain, repair, and eventually replace each physical component, or asset. This progression over time from routine operation and maintenance through repairs and eventual replacement is the asset's life cycle. Waiting to perform maintenance or make repairs can save money in the short term but may decrease the life cycle of an asset. On the other hand, replacing an asset before it fails may not take full advantage of the asset's value. It is this balance which puts the decisions for operations, maintenance, repair, and replacement actions at the heart of asset management.

Asset management is an evaluation of needed actions after considering the condition of an asset, the consequences of an asset failure, and the action alternatives available. The solution that provides lowest life cycle cost at the desired level of service is implemented.

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PART 1: DEFINING OUR GOALS – WHAT IS OUR DESIRED LEVEL OF SERVICE?

Our mission is to provide clean potable water for our community by proactively managing our water source, treatment, storage, and distribution assets to meet our desired level of service goals.

Our community, as the system owners, must determine the level of service we want from our system. Many factors play into this determination including: compliance with regulations, public health, aesthetics, service reliability, stable rates, etc. To this end, we have established the following primary goals:

Goal 1: Meet Regulatory Requirements

Our water system provides high-quality drinking water which meets or exceeds all regulations established in the Michigan Safe Drinking Water Act. Our system operators routinely test for contaminants in the drinking water according to Federal and State laws. We strive to achieve continued compliance with environmental regulations and provide the cleanest, safest water achievable with the treatment facilities we have.

Goal 2: Minimize Service Interruptions

Service interruptions from water main breaks, repair operations, and asset replacements are an inevitable part of operating a water system. However, by proactively managing and investing in our system, we can minimize how often these interruptions occur.

Goal 3: Minimize Public Hazards

Water main breaks can cause significant damage, not only to the streets above the mains but also to adjacent utilities and property. Additionally, water main breaks may result in boil-water requirements and/or other use restrictions. The American Water Works Association offers a goal guideline of 15 water main breaks per 100 miles of distribution water main. Our system contains 841 miles of water main and our goal is to have less than 105 breaks per calendar year.

To limit the potential damage from main breaks, we will maintain staffing levels to provide emergency response services 24 hours per day, 7 days a week.

Goal 4: Provide Enhanced-Fire Protection in the Distribution System

In accordance with the American Water Works Association Standards Manual of Water Supply Practices M31, we must decide if we want to size our drinking water system to provide water for firefighting. Firefighting can be accomplished using water brought to each site by the fire department and we can provide enhanced fire protection by oversizing our water system to allow the use of drinking water as a supplementary firefighting supply. Our system, at a minimum, must be designed to provide for the maximum expected demand for non-firefighting uses (domestic use, commercial uses, manufacturing, etc.). There is no legal requirement that we oversize portions or all of our water mains or water storage to allow the use of drinking water for firefighting.

Oversizing can increase the amount of time water sits within the system (when we are not using it for firefighting) which can create water quality issues in the system.

We will evaluate the desired levels of enhanced fire protection in each area of our community. Based on lifecycle costs, water quality considerations, the risks in various areas of our community, and the capabilities of our fire department, we will determine what level of enhanced fire protection is desired in various areas.

Goal 5: Minimize Water Loss

Water loss is often a significant source of lost revenue. We monitor the volume of pumped water and billed water which allows an accounting of potential leaked water. Causes of known, unbilled water loss include fire-fighting, hydrant flushing, and main breaks. Other water loss may occur through inaccurate water meters and leakage in the system. The American Water Works Association notes that the average water system can expect up to 10 percent water loss on an annual basis through the various causes of water loss. We will operate and maintain our system to meet the goal of 10 percent or less of annual water loss.

Goal 6: Identify and Replace Lead/Galvanized Water Services

In the early part of the 20th Century, many water systems utilized lead and galvanized metal for water service connections. Later in time, copper services became the norm for use on the public systems. However, lead and galvanized metal may still have been used within homes beyond the point of the public service connection. Under certain conditions, lead and galvanized water services may corrode and adversely affect water quality. We will locate lead and galvanized water services and implement a program to replace them.

Goal 7: Minimize Life Cycle Costs

The best financial decisions are those which achieve the lowest life cycle costs. This means we consider the full life cycle of each investment each time we evaluate improvements to our system. It is recognized that short term fixes, while they may have lowest immediate costs, may not be the best long term financial decision Likewise, not spending money on maintenance and repairs can provide short term cost savings but result in asset failure, ultimately increasing lifecycle costs. We intend to manage our system to always pursue the lowest life cycle cost possible for each system asset.

Goal 8: Partner Communities

Our water system serves not only our local residents but also the communities of Oshtemo Township, Texas Township, Comstock Township, and Kalamazoo Township. This partnership makes us all co-owners of the water system. As co-owners, we must work together to proactively manage our water system. We will establish a Partnering Board with our utility partners to facilitate communications regarding Operation and Maintenance demands, Capital Improvement Plans, and Rate impacts.

PART 2: INVENTORY - WHAT DO WE OWN?

Our System

Our water system includes assets such as wells which supply our water, a water treatment plant which filters and purifies the water, tanks which provide storage, and a pipe network which distributes our water.

Our Plan

We intend to keep our system inventory current by maintaining records of water system construction/maintenance utilizing a Geographic Information System for mapping and a comprehensive data base for asset information. This system will include mapping of all water distribution system assets, inventory of non-pipe assets (equipment, buildings, etc.), and asset data pertinent to Operations, Maintenance, Repair, and Replacement.

PART 3: RISK OF FAILURE – WHAT ARE THE CONDITIONS OF OUR ASSETS?

Our System

To understand how long each of our assets may last, we must maintain an understanding of their condition and evaluate the potential risk for failure. We will consider functional failure of an asset to be the primary consideration for Risk of Failure. However, physical failure of an asset must also be evaluated. Water pipes, valves, hydrants, and water services can be evaluated based on break history, evidence of corrosion, and age to determine their condition. Non-pipe assets such as, buildings, wells, and storage tanks can be inspected to determine their physical condition.

Our Plan

We will keep our condition assessments current by making recurring inspections of the assets at intervals frequent enough to document reasonably expected condition changes. These intervals will vary by asset type and expected asset life cycle. Once evaluation are completed, assets will be ranked based on the likelihood / risk of failure. All Risk of Failure ratings will be on a scale of 1-5 with 5 being the highest Risk of Failure.

PART 4: CONSEQUENCE OF FAILURE – WHAT HAPPENS WITH A FAILURE?

Our System

It is important that we understand the severity of consequences that may occur if any asset in our system fails. Functional failure consequences can occur when pumps stop working, valves cannot be opened/closed, and when water mains become corroded (pipe capacity is lost). Physical failure consequences can occur when we have water main breaks or catastrophic equipment failures.

Our Plan

We will evaluate the Consequences of Failure of each asset, from both a functional and physical failure perspective. We will maintain redundancy on assets with a high Consequence of Failure. All Consequence of Failure ratings will be on a scale of 1-5 with 5 being the highest Consequence of Failure.

PART 5: CRITICALITY – HOW DO WE PRIORITIZE OUR ACTIONS?

Our System

We must prioritize the actions we need to take for our system to meet our Level of Service goals while managing our work loads, utility rates, and minimizing life cycle costs. Criticality is the product of as asset's Risk of Failure and Consequence of Failure. The Criticality of an asset should not be confused with its Consequence of Failure. Criticality, being the product of Risk and Consequence, is simply a measure of priority.

Our Plan

Criticality Ratings will be used to guide the priority of needed improvements and development of the Capital Improvement Plan. Criticality of assets within our system will be determined by multiplying each asset's Risk of Failure rating (1-5) by an asset's Consequence of Failure rating (1-5) to establish the Criticality Rating (1-25).

PART 6: CAPACITY – DO WE HAVE ENOUGH, NOW AND FOR THE FUTURE?

Our System

Our system must meet water demands both now and into the future for both typical uses and, if we chose, fire protection. Over time, the flow demands will change with changes in property use and population. System analysis indicates we are currently meeting typical peak demands and that we need to make some improvement to meet our enhanced-fire protection goals.

Our Plan

Our General Plan outlining the capacity improvements which are needed to keep up with future flow projections, peak demands, and desired fire flow supply is maintained as part of our requirements under the Safe Drinking Water Act. Additional system analysis is found in our Water System Reliability Study report.

PART 7: OPERATIONS AND MAINTENANCE – KEEPING UP WITH ROUTINE WORK

Our System

Certain portions of our system need routine/on-going service to continue functioning. Our system Operations and Maintenance (O&M) demands are relatively stable and we will manage the system to maintain that stability. We will utilize Computerized Operations Maintenance and Management tools to maintain asset inventories and schedule regular O&M activities.

Our Plan

We have established the following O&M goals:

1. Maintain staffing and equipment levels such that routine O&M activities can be accomplished by in-house staff with a maximum overtime goal of 15%.

2. Utilize in-house staff to verify proper function of all system assets such as equipment, valves, and hydrants.

3. Outside consultants/contractors will be utilized when specialized technical or equipment capabilities are required.

PART 8: CAPITAL IMPROVEMENTS – CONTINUING SYSTEM RENEWAL

Our System

A Capital Improvement Plan (CIP) for our water system is found in our most recent Water Reliability Study (WRS). That study identifies the priorities of proposed water system improvements such as water main replacements, equipment replacements, and major O&M activities.

Our Plan

We will incorporate the recommendations of the WRS into a comprehensive CIP which will document the major projects we plan to complete within the next 10 years. The order and timing of projects will be guided by the Criticality Ratings developed during the asset evaluation process. Project timing may also be driven by availability of outside funding sources such as loans and grants. We will maintain and update our comprehensive Capital Improvement Plan on an annual basis.

PART 9: FINANCIAL STRATEGY – RATE PLANNING AND STABILITY

Our System

All system costs are funded through our water system billings. Our billings are broken into two primary categories: Readiness to Serve (RTS) charges and Commodity Charges. The RTS charges pay for the investment into the physical assets of the system such as treatment works, storage tanks, and distribution piping. Those assets must be in-place before any actual water can be used and must be maintained regardless of the amount of water used. The Commodity charge is based on the cost to supply, treat, and pump the actual water. It is the smaller of the two primary cost categories and is based on both the user category (residential, commercial, industrial, etc.) and the actual amount of water used.

The billings also support O&M activities and payments on utility bonds (borrowed money) used to fund major system improvements.

Our Plan

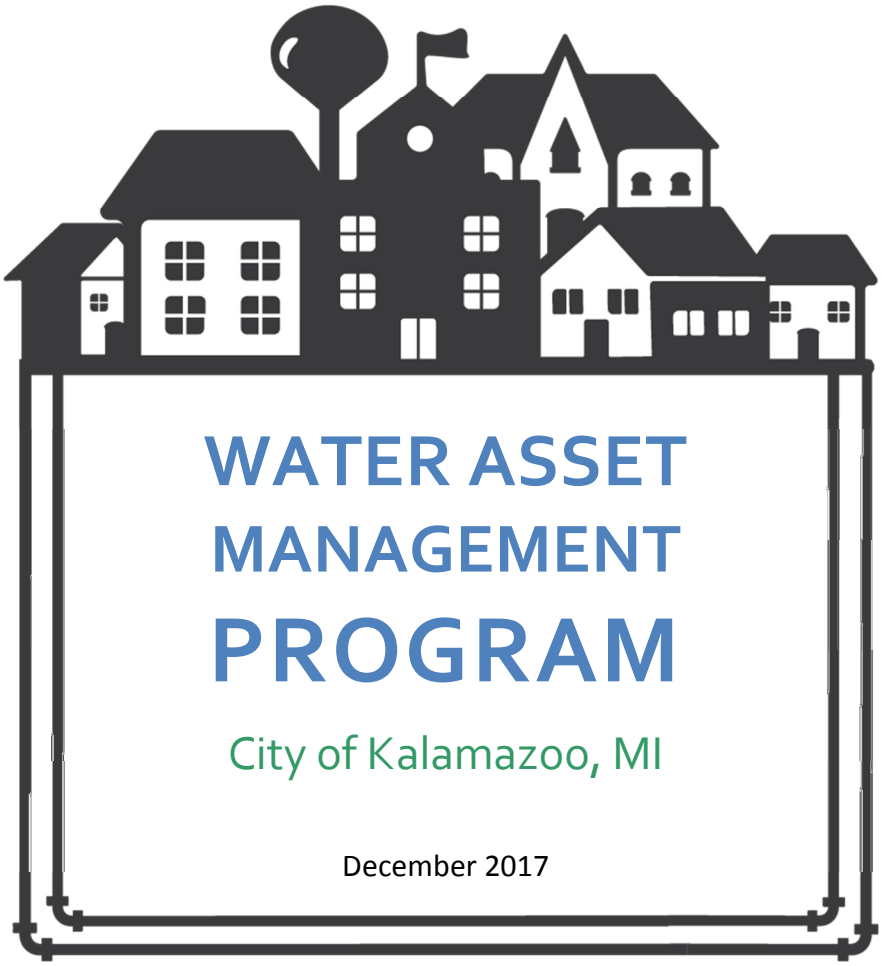
We intend to maintain a life cycle forecast of anticipated costs, income from rates, and cash balances. We will use this forecast to establish sustainable and stable utility rates. This in turn helps our residential, business, and industrial owners in their individual, long-term financial planning.

We intend to fund system O&M on a cash basis through the rate structure and intend to maintain minimum cash balance equal to 12 months of standard O&M. This will also allow us to cash fund emergency repairs and minor unanticipated asset repairs/replacements.

We intend to also cash fund planned system repairs and replacements if that can be accomplished with a stable rate structure and appropriate cash balances. Significant expenditures may be bond financed to stabilize rate impacts and maintain reasonable cash balances.

SUMMARY

Our Asset Management Plan is a compilation of goals to guide us in maintaining a reliable water system. By achieving these goals, our utility system will be proactively managed to provide the Desired Level of Service for the lowest possible long term cost.



WATER ASSET MANAGEMENT PROGRAM

City of Kalamazoo, MI

December 2017

How we'll get there: The Action Plan



INTRODUCTION

About this Document

This document is our Water Asset Management Program. It is an internal document which defines how we will apply the principles of asset management to achieve the goals outlined in our Asset Management Plan.

The Asset Management Program will be maintained through a joint effort of our staff and administration. We will update our program on an annual basis to ensure its relevancy and effectiveness.

Our Commitment

Our community water system is a complex set of components that we operate and maintain in a way that provides us with clean and reliable drinking water. That system includes assets such as wells which supply our water, a water treatment plant which filters and purifies the water, tanks which provide storage, and a pipe network which distributes our water. As members of our community, each one of us helps pay for the operation, maintenance, and replacement of those system assets through our utility rates. In effect, we are all owners of the water system. As the system owners, we commit to proactively manage our system assets and make decisions based on long term lifecycle cost.

Asset Management Principles

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PART 1: DEFINING OUR GOALS – WHAT IS OUR DESIRED LEVEL OF SERVICE?

Our mission is to provide clean potable water for our community by proactively managing our water source, treatment, storage, and distribution assets to meet our desired level of service goals.

Our community, as the system owners, must determine the level of service we want from our system. Many factors play into this determination including: compliance with regulations, public health, aesthetics, service reliability, stable rates, etc. To this end, we have established primary system goals in a separate document titled as our Asset Management Plan. This document, our Asset Management Program, identifies how we plan to meet our goals:

Goal 1: Meet Regulatory Requirements

We will have a minimum of 44 certified water system operators to provide staff coverage, quality control cross checking, and broadened institutional knowledge.

We will perform the required testing in-house by maintaining a laboratory testing space and through a third-party certified laboratory when needed to supplement in-house capabilities.

We will establish a cross-connection elimination program.

Goal 2: Minimize Service Interruptions

We will monitor and maintain all of our water supply, treatment, and distribution system assets such that there are no interruptions in system operation that are reasonably preventable.

We will maintain service crew levels to ensure continued operations and maintenance activities such that no more than 150 emergency responses per year are required.

Goal 3: Minimize Public Safety Hazards

Water system assets that are significantly affected by environmental conditions (freezing, heating, corrosion) will be improved / replaced so as to minimize their failure vulnerability.

Our 24 hour emergency response services will be equipped and staffed to provide maximum 60 minute response times to main breaks and major equipment failures. We will strive to limit the duration of individual service interruptions to less than 6 hours whenever possible. Staff will be provided cell phones, pagers, and /or other contact mechanism to be notified when a response is required.

Goal 4: Provide Enhanced-Fire Protection in the Distribution System

Enhanced fire protection in accordance with American Water Work Association, AWWA, standards Manual M31 will be provided as noted for the following areas:

- Low and Medium Density Residential : No enhanced protection
- High Density Residential: Up to 1,500 gallon per minute for 2 hours
- All commercial/industrial: Up to 2,500 gallons per minute for 2 hours

Goal 5: Minimize Water Loss

We will implement a water efficiency program to track the actual lost water. Once water loss causes are identified and quantified, we will implement corrective measures such as main replacement and meter replacement to meet our water loss goal.

We will develop a water meter testing and replacement program. Maintaining meter records and developing a systematic plan to change out meters will help maintain accurate water billing and can provide a significant increase in system revenue. As part of this effort, we will evaluate meter technologies that relate to accuracy, labor efficiency and cost effectiveness. Meter replacement will be made with either new or refurbished meters with the goal of providing more accurate billings to our system owners and to help minimize revenue loss. The replacement schedule goals are within 3-years for business/commercial and industrial facilities and within 10-years for residential meters.

Goal 6: Identify and Replace Lead/Galvanized Water Services

We will maintain our water chemistry to minimize the corrosion potential in the various water service materials.

We will implement a program to identify and locate the types of service lines in our system and prepare a logistical plan, timeline, and budget for replacing the lead and galvanized metal services within the public portions of system. Services will be replaced when road replacement projects or work on other assets impact the immediate area where lead/galvanized services are known to exist. Such projects are identified in our Capital Improvement Plan.

Through a public education program, we will encourage all members of our community to replace those types of water lines on the private property portions of those services and within their homes/businesses.

Goal 7: Minimize Life Cycle Costs

We will implement asset condition tracking and criticality assessments to determine the optimum time for asset maintenance and/or replacement. Decisions will be made which strike a balance between maximizing the lifecycle use of all assets, the risk of failure of the assets, and the consequence of failure of the assets.

Goal 8: Partner Communities

We will establish a Partnering Board with two representatives from each partner community. The Board will meet twice annually to review Operation and Maintenance demands, Capital Improvement Plans, and Rate impacts. We will develop procedural guidelines that will be reflected in our utility service agreements.

PART 2: INVENTORY - WHAT DO WE OWN?

Our System

Our water system includes assets such as wells which supply our water, a water treatment plant which filters and purifies the water, tanks which provide storage, and a pipe network which distributes our water. Cast iron pipe was the dominant choice for water construction in North America for many decades. Cast iron pipes are subject to internal corrosion (rusting) and can be prone to cracking. In more recent decades, ductile iron and plastic water pipes have become the standards in new water main construction. Water mains made from these newer materials are expected to outlast their cast iron predecessors and as time continues, there is more data being gathered regarding the potential failure modes of those materials.

The majority of our water mains which were installed from the 1930's through 1950's are made of cast iron pipe material. Pipes installed after 1965 are made of ductile.

A detailed summary of our water system assets is found in our Water Reliability Study as well as in a detailed asset inventory maintained by our Department of Public Works in a General Plan as required by the Safe Drinking Water Act.

A history on non-pipe assets is maintained by the Department of Public Works, and generally includes date of purchase, purchase costs, inspection reports, repair history, maintenance schedule, and specifications.

Our Plan

We will keep our system inventory current by keeping records of water system construction with the use of our Geographic Information System (GIS). This system will include mapping of all water distribution system assets, inventory of non-pipe assets, and asset data pertinent to Operations, Maintenance, and Replacement.

Our Program

When the water system is altered, either by construction of new assets or rehabilitation/replacement of existing assets, we will maintain records of each water project in our GIS system.

Distribution System

We will maintain data on pipe materials, installation dates, sizes, and any other pertinent information which will assist with our asset management program. Pipe locations will be determined based on record drawing information.

Hydrants and valves locations will initially be identified using base aerial photography and field observations. As time and budget permit, we will utilize either handheld GPS or survey GPS to collect and refine locational data.

Assets within our pumping stations will be tracked using Computerized Operations Maintenance and Management tools to maintain asset inventories, schedule regular O&M activities, and create financial projections for future replacement. We will utilize the Proteus CMMS software as well as customized spreadsheets.

We will also collect locational data on water services for tap and curb box locations. Other data such as size, material, and installation date will also be documented in our GIS system.

Water Supply

We will maintain GIS locational data on each well in our system. Other well data such as depth, diameter, capacity, and installation dates will also be maintained.

Our surface water intake locations(s) will be identified in our GIS system.

Water Treatment and Water Storage

Our treatment/storage facility locations will be identified in our GIS system. Assets within our treatment system will be tracked using Computerized Operations Maintenance and Management tools to maintain asset inventories, schedule regular O&M activities, and create financial projections for future replacement. We will utilize the Proteus CMMS software as well as customized spreadsheets.

Other Assets

We will maintain active inventories of assets such as trucks, loaders, generators, backhoes, or any other functionally or financially significant assets. Informational data such as manufacture date, purchase price, maintenance budget, and warranty information will be tracked.

In this way, the GIS database will be kept up to date and serve as a complete record of the current water system inventory. We will use this inventory and database to operate and manage our system.

PART 3: RISKS OF FAILURE – IN WHAT CONDITION ARE OUR ASSETS?

Our System

To understand how long each of our assets may last, we must maintain an understanding of their condition and evaluate the potential risk for failure. We will consider functional failure of an asset to be the primary consideration for Risk of Failure. However, physical failure of an asset must also be evaluated. Water pipes, valves, hydrants, and water services can be evaluated based on break history, evidence of corrosion, and age to determine their condition. Non-pipe assets such as, buildings, wells, and storage tanks will be inspected to determine their physical condition.

Our Plan

We will keep our condition assessments current by making recurring inspections of the assets at intervals frequent enough to document reasonably expected condition changes. These intervals will vary by asset type and expected asset life cycle. Once evaluation are completed, assets will be ranked based on the likelihood / risk of failure. All Risk of Failure ratings will be on a scale of 1-5 with 5 being the highest Risk of Failure.

Our Program

We will assess water pipe conditions on a regular basis based on break/repair records, break history, material, and age. All system data for the distribution network, including Risk of Failure ratings, will be maintained within a GIS database.

We will exercise hydrants and valves yearly to insure they are properly working. All data for these assets will be maintained within a GIS database.

Production wells, storage tanks, buildings, and water meters condition information will be kept up to date as part of routine operations.

Higher consequence of failure items may be inspected or assessed more frequently.

PART 4: CONSEQUENCE OF FAILURE –WHAT HAPPENS WITH A FAILURE?

Our System

It is important that we understand the severity of consequences that may occur if any asset in our system fails. Functional failure consequences can occur when pumps stop working, valves cannot be opened/closed, and when water mains become corroded (pipe capacity is lost). Physical failure consequences can occur when we have water main breaks or catastrophic equipment failures.

Our Plan

We will evaluate the Consequences of Failure of each asset, from both a functional and physical failure perspective. We will maintain redundancy on assets with a high Consequence of Failure. All Consequence of Failure ratings will be on a scale of 1-5 with 5 being the highest Consequence of Failure.

Our Program

It is important that we understand the severity of consequences that may occur if any asset in our system fails. Functional failure considerations include potential health risks, service interruption, and damage to connected assets. Physical failure considerations include damage to adjacent infrastructure, environmental damage, and property damage. Each of these factor will be considers separately and then compiled into a single Consequence of Failure (CoF) rating for each asset.

For the distribution system water mains, all data for the CoF factors will be maintained in the GIS database. For all other assets, CoF factors will be maintained in either the Proteus CMMS software or in customized asset spreadsheets.

Consequence of Failure

5	Unacceptable Impacts
4	Critical Impacts
3	Significant Impacts
2	Minor Impacts
1	Redundant System or No Impacts

PART 5: CRITICALITY – HOW DO WE PRIORITIZE?

Our System

We must prioritize the actions we need to take for our system to meet our Level of Service goals while managing our work loads, utility rates, and minimizing life cycle costs. Criticality is the product of as asset's Risk of Failure and Consequence of Failure. The Criticality of an asset should not be confused with its Consequence of Failure. Criticality, being the product of Risk and Consequence, is simply a measure of priority.

Our Plan

Criticality Ratings will be used to guide the priority of needed improvements and development of the Capital Improvement Plan. Criticality of assets within our system will be determined by multiplying each asset's Risk of Failure rating (1-5) by an asset's Consequence of Failure rating (1-5) to establish the Criticality Rating (1-25).

Our Program

The condition of the asset, and therefore its Risk of Failure, will change over time. Additionally, the Consequences related to failure may also change. We will review the criticality of each asset on an annual basis and make adjustments to account for these changes. As with all the components of the Asset Management program, the criticality analysis is an on-going process. We will keep our criticality assessments current after performing repairs, improvements, or inspections. When evaluating the criticality of an asset, we also consider redundancy as this can significantly reduce the Consequence of Failure of an individual asset. We will use our criticality assessments when establishing priorities regarding maintenance, repairs, and capital improvements.

PART 6: CAPACITY – DO WE HAVE ENOUGH, NOW AND FOR THE FUTURE?

Our System

Our system must meet water demands both now and into the future for both typical uses and, if we chose, fire protection. Over time, the flow demands will change with changes in property use and population. System analysis indicates we are currently meeting typical peak demands and that we need to make some improvement to meet our enhanced-fire protection goals. A detailed analysis of our system capacity is found in our Water System Reliability Study report.

Our Plan

Our General Plan outlining the capacity improvements which are needed to keep up with future flow projections, peak demands, and desired fire flow supply is maintained as part of our requirements under the Safe Drinking Water Act. Additional system analysis is found in our Water System Reliability Study report.

Our Program

We will update our General Plan and Water System Reliability Study report in accordance with current regulations. The evaluations will include review of the distribution system, source and treatment system and storage requirements under maximum day demands and desired fire flow.

We will monitor water use for consistency with the water system's General Plan. As water uses change and connections are added or changed, the system demands will be monitored. If significant changes in system flow occur, the General Plan and Reliability Study will be updated to account for these changes.

System improvement needs identified in the Water Reliability Study will be integrated into the comprehensive Capital Improvement Plan.

PART 7: OPERATIONS AND MAINTENANCE – KEEPING UP WITH ROUTINE WORK

Our System

Certain portions of our system need routine/on-going service to continue functioning. Our system Operations and Maintenance (O&M) demands are relatively stable and we will manage the system to maintain that stability. We will utilize Computerized Operations Maintenance and Management tools to maintain asset inventories and schedule regular O&M activities.

Our Plan

We have established the following O&M goals:

1. Maintain staffing and equipment levels such that routine O&M activities can be accomplished by in-house staff with a maximum overtime goal of 15%.

2. Utilize in-house staff to verify proper function of all system assets such as equipment, valves, and hydrants.

3. Outside consultants/contractors will be utilized when specialized technical or equipment capabilities are required.

Our Program

Staffing and Equipment

We will monitor crew workloads and production rates to establish general workload goals for our crews. This will include periodic review of crew size, methods, and equipment in an effort to maximize staff efficiency and effectiveness. Equipment ownership vs rental will be evaluated based on an annual cost of service basis. Staffing levels will be adjusted based on normalized workload projections and workload goals to meet utilization goals.

Water System Flushing

We will perform system flushing on all hydrants on a twice-annual basis, once in the spring and once in the fall. A detailed flushing plan will be maintained by the Department of Public Works.

We will exercise each system valve on a once-annual basis.

Valves or hydrants requiring repairs will be identified and scheduled for repair within three months of being identified or as soon as seasonal weather allows.

Data relative to hydrant flushing and valve exercising will be maintained in the GIS database.

Production Wells, Storage Tanks and Treatment Facilities

We will continue operating these facilities and perform maintenance in accordance with site specific operations and maintenance plans for each of these assets. This includes having the wells inspected every 2 years and storage tanks every 5 years by a trained expert. Operations and maintenance manuals will be kept on file to document all maintenance performed and list of recommended scheduled maintenance.

Supporting Assets

We plan to renew our maintenance equipment and other supporting assets on a scheduled replacement cycle. This will allow us to keep reliable equipment in service for operating and maintaining the system to achieve our level of service goals.

Water System Management

We will monitor the break history of the water mains and record the date and locations of such breaks using the GIS system. We will track maintenance activities to identify assets requiring higher than expected maintenance levels.

We will perform O&M activities to extend the useful life of these assets until complete rehabilitation or replacement of the asset is more cost effective. We will use our software systems to manage this data and keep our planned activities up to date. We will maintain regularly scheduled O&M activities, plan/schedule appropriate replacements, and coordinate activities with work on other assets that share common space (i.e. within the same road right-of-way)

PART 8: CAPITAL IMPROVEMENTS – CONTINUING SYSTEM RENEWAL

Our System

A Capital Improvement Plan (CIP) for our water system is found in our most recent Water Reliability Study (WRS). That study identifies the priorities of proposed water system improvements such as water main replacements, equipment replacements, and major O&M activities.

Our Plan

We will incorporate the recommendations of the WRS into a comprehensive CIP which will document the major projects we plan to complete within the next 10 years. The order and timing of projects will be guided by the Criticality Ratings developed during the asset evaluation process. Project timing may also be driven by availability of outside funding sources such as loans and grants. We will maintain and update our comprehensive Capital Improvement Plan on an annual basis.

Our Program

Planning for capital improvements is a continual management process. The Capital Improvement Plan shows our foreseeable project priorities based on the information we have available now. Capital Improvement Plans will be adjusted annually and will consider the following influences:

- Outside funding sources (grants and loans) may become available for certain types of projects from time to time. When this happens, we will reprioritize to make best use of available funds.
- Adjustment of asset condition assessments.
- Changes in economic conditions such as costs of materials, labor, and financing.
- Coordination with road work and other utility work may require adjustments in timing of water system improvements. Roadway conditions can dramatically change with severe weather seasons. Where utility projects require excavation below streets, coordinating utility and road projects is essential to achieve the lowest life cycle cost. As roadway conditions change and paving plans are revised, the water system plans will be adjusted.

We will keep the Capital Improvement Plan up to date by taking the following steps annually:

- Adjust the cost estimates for capital projects based on current market pricing
- Reconsider capital improvements priorities based on any updated criticality assessments
- Reconsider implementation years for upcoming capital projects to coordinate with changing conditions of roads and other utilities
- Adjust our financial forecast based on number of users, current rates, and cash balances

- Adjust the utility rates according to these changed conditions, to stay consistent with established long term financial strategy.
- We will make miscellaneous system repairs which are small enough to be accomplished without engineered project plans or project specific budgeting on an as-needed basis. We will continue budgeting for such repairs based on prior year expenses and known system repair needs. When making decisions on system repairs, we will consider the criticality assessments as well as planned rehabilitation and replacement projects. We will perform proactive repairs with in-house staff and equipment as to the ability of staff and the available resources. Proactive repairs outside the available staff resources or abilities will be contracted out.
- We will fully rehabilitate or replace pipes, hydrants, production wells, and elevated storage tanks when doing so would provide the lowest life cycle cost. Such projects are identified in our Capital Improvement Plan.

PART 9: FINANCIAL STRATEGY – RATE PLANNING AND STABILITY

Our System

All system costs are funded through our water system billings.

Our Plan

We intend to maintain a life cycle forecast of anticipated costs, income from rates, and cash balances. We will use this forecast to establish sustainable and stable utility rates. This in turn helps our residential, business, and industrial owners in their individual, long-term financial planning.

We intend to fund system O&M on a cash basis through the rate structure and intend to maintain minimum cash balance equal to 12 months of standard O&M. This will also allow us to cash fund emergency repairs and minor unanticipated asset replacements.

We intend to also cash fund planned system repairs and replacements if that can be accomplished with a stable rate structure and appropriate cash balances. Significant expenditures may be bond financed to stabilize rate impacts and maintain reasonable cash balances.

Our Program

We will maintain a life cycle forecast of anticipated costs, income from rates, and cash balances. The early years of the forecast are tabulated from our Capital Improvement Plan cost estimates while the later years of the forecast are projected from the system inventory and life cycle data. We will use this forecast to establish sustainable and stable utility rates.

We will fund system operations and maintenance on a cash basis through the rate structure and will maintain a minimum cash balance as set by the system goals.

We will also cash fund planned system repairs and replacements if that can be accomplished with a stable rate structure and cash balances not exceeding our base cash balance by a factor of 2.5. Significant expenditures may be bond financed to stabilize rate impacts and maintain reasonable cash balances. We will maintain and update our CIP plan annually, and review it with our financial adviser to confirm rates and cash balances are acceptable.

We will also implement standard, annual rate changes that, at a minimum, parallel inflation so as to foster a stable rate structure.

To keep the financial strategy on track with changing conditions, we plan to make the following updates each year:

- Update all spending and income projections
- Adjust or reaffirm the long term financial strategy
- Implement updated user rates.

SUMMARY

Our Asset Management Program outlines how we will achieve our Asset Management Plan goals. It may be adjusted from time to time based as new/improved tools, software, and evaluation techniques are developed. Regardless of those changes, we will incorporate Asset Management into our everyday activities, including implementation of system improvements and our system master planning. The current level of completion of these goals can be found in the Water Reliability Study. By proactively managing our water system, we will be able to achieve our Desired Level of Service for the lowest possible long term cost.

The following table notes tentative start dates for each of the noted major activities:

Activity	**Estimated Start**
Inventory	Ongoing
Condition Assessment	Ongoing
Criticality Determination	Ongoing
Capacity Analysis	Ongoing
Fire Protection Review	Ongoing
Capital Improvement Plan	January 2018

Special Programs	**Estimated Start**
Utility Partner Board	July 2018
Water Efficiency	Ongoing
Meter Testing/Replacement	Ongoing
Lead/Galvanized Services	Ongoing



CAPITAL IMPROVEMENT PLAN (WATER)

City of Kalamazoo
Kalamazoo County, Michigan

December 2017

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Prepared by

ENGINEER: Ryan Russell
Prein&Newhof
[2160549]

INTRODUCTION

The City of Kalamazoo's public infrastructure includes drinking water supply and delivery systems, storm drainage systems, and public streets. These systems are aging and certain parts need to be repaired or replaced to keep up with deterioration over time. This capital improvement plan focuses on the water supply and delivery system only. The City of Kalamazoo water supply is generated at multiple well fields throughout the distribution system and therefore treatment is decentralized. Treatment primarily includes chlorination, fluoridation, and iron removal at select locations.

The City of Kalamazoo currently maintains and tracks their assets using Lucity Asset Management software. This database is used to create and track active and completed work orders for all water assets. The City's current asset inventory contains approximately 4,400,000 feet of distribution piping and 700 non-pipe assets.

Waiting until something breaks to make emergency repairs is expensive. A more proactive approach can minimize life cycle costs using the following steps:

- Evaluate the condition and capacity of assets to determine the needs.
- Implement a maintenance program for the small needs.
- Implement a Capital Improvement Plan for the big needs.
- Develop financial strategies to fund all planned work before needs become emergencies.

The City of Kalamazoo is actively managing the needs of these systems. The needs have been evaluated and financial strategies have been considered. All non-pipe assets above $5000 were inspected and recorded for financial analysis. Assumptions were made using the best available information to estimate unknown pipe and non-pipe asset data. This Capital Improvement Plan presents the City of Kalamazoo's infrastructure priorities that have been established within a 20-year planning period, a timeline for accomplishing the needed improvements, and a financial strategy to implement the plan.

Gull Road Tank

6th Street Tank

Mt. Olivet Tank

Beech Tank

Dartmouth Tank

Eberhard Tank

Stadium Drive Tank

LEGEND

Water Main Diameter

- 4" And Under
- 6"
- 8"
- 10"
- 12"
- 16"
- 20"
- 24"
- 30"
- Water Main Operated By Others
- Pump Station
- Water Tower
- Reservoir Tank

0 1,500 3,000 6,000 9,000 Feet

Scale: 1" = 3,000'

City of Kalamazoo

Kalamazoo County, Michigan

Water Distribution System

Map 1: Diameter

Prein&Newhof

August 2017

2160549

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8th Street Tank
Bench Tank
Barnhart Tank
Vly. Olivet Tank
Gull Road Tank
Eastwood Tank
Stadium Drive Tank

LEGEND

Water Main Installation Year

- 1900
- 1930 - 1939
- 1940-1949
- 1950-1959
- 1960-1969
- 1970-1979
- 1980-1989
- 1990-1999
- 2000-2009
- 2010 to Current
- Water Main Operated By Others
- Pump Station
- Water Tower
- Reservoir Tank

0 1,500 3,000 6,000 9,000 Feet

Scale: 1" = 3,000'

City of Kalamazoo
Kalamazoo County, Michigan

Water Distribution System

Map 2: Installation Year

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August 2017
2160549

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Gull Road Tank

8th Street Tank

Mt. Olivet Tank

Beech Tank

Dartmouth Tank

Eberwood Tank

Stadium Drive Tank

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LEGEND

Material

- Cast Iron
- Ductile Iron
- Poly Vinyl Chloride
- Unkown

- Water Main Operated By Others
- Pump Station
- Water Tower
- Reservoir Tank

0 1,500 3,000 6,000 9,000 Feet

Scale: 1" = 3,000'

City of Kalamazoo

Kalamazoo County, Michigan

Water Distribution System

Map 3: Materials

Prein&Newhof

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Gull Road Tank

8th Street Tank

Beech Tank

Dartmouth Tank

Mt. Olivet Tank

Edgemoor Tank

Stadium Drive Tank

LEGEND

WAMP - ROF Break History

- Out of Scope
- 1 - No Leakage or Breaks
- 2 - Leakage
- 3 - Singular Break
- 4- Multiple Breaks
- 5 - Imminent Failure

- Water Main Operated By Others
- Pump Station
- Water Tower
- Reservoir Tank

N

0 1,500 3,000 6,000 9,000 Feet

Scale: 1" = 3,000'

City of Kalamazoo

Kalamazoo County, Michigan

Water Distribution System

Map 4: Break History

Prein&Newhof

August 2017

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Gull Road Tank

8th Street Tank

Mt. Olivet Tank

Beech Tank

Dartmouth Tank

E Boerman Tank

Stadium Drive Tank

LEGEND

Domestic Flow Rating

- 1 - Adequate
- 2 - Substandard Diameter
- 3 - Discoloration
- 4 - Inadequate Residential Flow
- 5 - Inadequate Commercial/Industial Flow

- Water Main Operated By Others
- Pump Station
- Water Tower
- Reservoir Tank

0 1,500 3,000 6,000 9,000 Feet

Scale: 1" = 3,000'

City of Kalamazoo

Kalamazoo County, Michigan

Water Distribution System

Map 5: Domestic Flow

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Gull Road Tank

8th Street Tank

Beech Tank

Mt. Olivet Tank

Dartmouth Tank

Edgemoor Tank

Stadium Drive Tank

LEGEND

Watermain Risk of Failure Rating

- 1
- 2
- 3
- 4
- 5

- Water Main Operated By Others
- Pump Station
- Water Tower
- Reservoir Tank

0 1,500 3,000 6,000 9,000 Feet

Scale: 1" = 3,000'

City of Kalamazoo

Kalamazoo County, Michigan

Water Distribution System

Map 6: Risk of Failure

Prein&Newhof

August 2017

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Gull Road Tank

8th Street Tank

Mt. Olivet Tank

Beech Tank

Dartmouth Tank

Edgemoor Tank

Stadium Drive Tank

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LEGEND

Watermian Criticality Rating

- Least Critical
- Most Critical
- Water Main Operated By Others
- Pump Station
- Water Tower
- Reservoir Tank

0 1,500 3,000 6,000 9,000 Feet

Scale: 1" = 3,000'

City of Kalamazoo

Kalamazoo County, Michigan

Water Distribution System

Map 7: Criticality

Prein&Newhof

August 2017

2160549

6th Street Tank
Beech Tank
Bakeshore Reservoir
Eastmoor Tank
Olivet Tank
Gull Road Tank
Stadium Drive Tank

LEGEND

- Water CIP Projects
- Water Main
- Water Main Operated By Others
- Pump Station
- Water Tower
- Reservoir Tank

0 1,500 3,000 6,000 9,000 Feet

Scale: 1" = 3,000'

City of Kalamazoo
Kalamazoo County, Michigan

Water Distribution System

Map 8: Capital Improvement Projects

Prein&Newhof

December 2017
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CITY OF KALAMAZOO
CAPITAL IMPROVEMENT PROJECTS (WATER)

Table 1: Capital Improvement Priorities

Project ID	Location & Description	Today's Cost	Estimated Year*	Future Cost**
1	Station 4 ATS	49,000	2018	50,000
2	Rose Street Water Main	294,000	2018	300,000
3	Locust Court/Vine Street Water Improvements	176,000	2018	180,000
4	Howard - Stadium to Oakland	25,000	2018	25,000
5	Pitcher - Kalamazoo to Michigan	25,000	2018	25,000
6	SCADA Station Completion	176,000	2018	180,000
7	Station 8 booster replacement	98,000	2018	100,000
8	Station 25 Roof Replacement	29,000	2018	30,000
9	Station 18 Power Upgrades	49,000	2018	50,000
10	Stockbridge Gate Actuators	29,000	2018	30,000
11	Station 31 Booster 2 Replacement	49,000	2018	50,000
12	Station 39 Generator	98,000	2018	100,000
13	Dutton Pl Water Main	132,000	2018	135,000
14	Blakeslee Water Main Valve Improvements	49,000	2018	50,000
15	Texas Township Water Main Looping	149,000	2019	155,000
16	Cork Street - Portage to Sprinkle	2,074,000	2019	2,160,000
17	Station 22 Elevated Storage	5,762,000	2019	6,000,000
18	Central Station Upgrades	192,000	2019	200,000
19	Station 5 Booster Pump House Replacement	831,000	2019	865,000
20	Station 11 Upgrades	346,000	2019	360,000
21	Station 14 Upgrades	158,000	2019	165,000
22	Station 24 Upgrades	384,000	2019	400,000
23	Station 25 Upgrades	307,000	2019	320,000
24	Super High Pressure District Tank	3,467,000	2019	3,610,000
25	Construct approximately 1,570 feet of 12-inch main on Michigan Avenue from 26th Street to King Highway.	275,000	2019	286,000

CITY OF KALAMAZOO
CAPITAL IMPROVEMENT PROJECTS (WATER)

Project ID	Location & Description	Today's Cost	Estimated Year*	Future Cost**
26	Construct approximately 1,500 feet of 12-inch main on Henson from Gull Road to Spring Valley Drive.	265,000	2019	276,000
27	Replace approximately 1,620 feet of 6-inch main with new 8-inch main on Denner Street from North Street to Alamo Avenue.	225,000	2019	234,000
28	Construct approximately 580 feet of 8-inch main on State Street south of Reed Avenue and over to High Street to loop the dead end.	80,000	2019	83,000
29	Construct approximately 210 feet of 8-inch main from the hydrant on Hibbard south to connect to the existing main on Branch Street.	30,000	2019	31,000
30	Construct approximately 110 feet of 8-inch main underneath the railroad tracks from K Avenue to Michigan Avenue.	15,000	2019	16,000
31	Construct approximately 30 feet of 8-inch main on Big Bend Drive to connect to the 8-inch main between Parkside Drive and Big Bend Drive to loop the dead end.	5,000	2019	5,000
32	33rd Street Water Main	4,313,000	2020	4,583,000
33	Portage - Stockbridge to Walnut	612,000	2020	650,000
34	Oakland - Howard to Parkview	1,525,000	2020	1,620,000
35	Central Sand filter valves and Inlet Replacement	118,000	2020	125,000
36	Central Station Facilities Upgrade	1,666,000	2020	1,770,000
37	Station 4 Well House Replacement	151,000	2020	160,000
38	Station 10 Upgrades	169,000	2020	180,000
39	Replace approximately 2,700 feet of 6-inch main with new 8-inch main on Ira Avenue from Charles Avenue to Main Street.	370,000	2020	393,000
40	Replace approximately 1,350 feet of 6-inch main with new 8-inch main on Old Field Trail from Cricket Lane to Songbird Lane.	185,000	2020	196,000
41	Replace approximately 1,300 feet of 6-inch main with new 8-inch main on Nassau Street from Main Street to Gertrude Street.	180,000	2020	191,000
42	Replace approximately 660 feet of 6-inch main with new 8-inch main between Maple Hill Drive and the dead end south of Main Street.	90,000	2020	96,000
43	Replace approximately 430 feet of 6-inch main with new 8-inch main on Silver Hills Avenue from Nazareth Road to Enterprise Drive.	60,000	2020	64,000
44	11th Street Water main	922,000	2021	1,000,000
45	Blakeslee Tank Large Valve Replacement	231,000	2021	250,000

CITY OF KALAMAZOO
CAPITAL IMPROVEMENT PROJECTS (WATER)

Project ID	Location & Description	Today's Cost	Estimated Year*	Future Cost**
46	Station 6 upgrades	816,000	2021	885,000
47	Station 9 Upgrades	303,000	2021	328,000
48	Station 12 Upgrades	37,000	2021	40,000
49	Station 26 Replacement	872,000	2021	945,000
50	Construct approximately 2,620 feet of 16-inch main on PQ Avenue from 5th Street to 6th Street.	525,000	2021	568,000
51	Replace approximately 1,300 feet of 6-inch main with new 8-inch main on Waverly Street from Main Street to Gertrude Street.	180,000	2021	195,000
52	Replace approximately 1,300 feet of 6-inch main with new 8-inch main on Taliesin Drive from Parkwyn Drive to Lorraine Avenue.	180,000	2021	195,000
53	Construct approximately 510 feet of 8-inch main on Wynn Road east of Construction Drive to connect to the existing 8-inch main on Wynn Road west of River Street.	70,000	2021	76,000
54	Construct approximately 16,300 feet of 16-inch main on 33rd Street from G Avenue to M-96 (Michigan Avenue).	3,260,000	2022	3,599,000
55	High Pressure District (East) Tank	3,278,000	2023	3,700,000
56	Station 38 Construction	5,669,000	2023	6,400,000
57	Construct approximately 850 feet of 8-inch main from Mills Street and Gibson Street to connect to the dead end main to the east in Mayors Riverfront Park.	120,000	2023	135,000
58	Construct approximately 870 feet of 8-inch main from the existing hydrant on Palmer Avenue to Portage Street and then on Portage Street from Palmer Avenue to connect to the existing Low Pressure District Main at Alcott Street and Palmer Avenue.	120,000	2023	135,000
59	Construct approximately 640 feet of 8-inch main along Saint Albans Way from the existing hydrant to Inverness Lane to loop the dead end.	90,000	2023	101,000
60	Construct approximately 4,100 feet of 16-inch main on Glendale Boulevard from Orient Avenue to Mount Olivet Road.	820,000	2024	942,000
61	Station 29 Bleeder Valve Installation	43,000	2025	50,000
62	Construct approximately 15,000 feet of 12-inch main on Ravine Road/12th Street from Winding Way to D Avenue.	2,625,000	2025	3,076,000

CITY OF KALAMAZOO
CAPITAL IMPROVEMENT PROJECTS (WATER)

Project ID	Location & Description	Today's Cost	Estimated Year*	Future Cost**
63	Construct approximately 5,400 feet of 12-inch main on Texas Drive from Township Park to 10th Street.	945,000	2026	1,129,000
64	Butler Court Water Main	41,000	2027	50,000
65	Replace approximately 2,700 feet of 6-inch main with new 8-inch main on Dwillard Avenue from Charles Avenue to Main Street.	370,000	2027	451,000
66	Construct approximately 1,370 feet of 12-inch main on Main Street from Baker Drive to Nazareth Road.	240,000	2027	293,000
67	Replace approximately 1,700 feet of 6-inch main with new 8-inch main on Parkwyn Drive from Winchell Avenue to Lorraine Avenue.	235,000	2027	286,000
68	Construct approximately 10,600 feet of 16-inch main on 6th Street from PQ Avenue to the blowoff north of I-94.	2,120,000	2028	2,636,000
69	Construct approximately 2,600 feet of 12-inch main on Lafayette Avenue from Michigan Avenue south to Stadium Drive.	455,000	2029	577,000
70	Construct approximately 2,600 feet of 12-inch main on Riverview Drive from Gull Road to Mount Olivet Road.	455,000	2029	577,000
71	Construct approximately 6,530 feet of 12-inch main on C Avenue from Brantingham Way to 30th Street and on 30th Street from C Avenue to D Avenue.	1,145,000	2030	1,481,000
72	Construct approximately 3,550 feet of 12-inch main on Humphrey Street from Gull Road to Main Street.	620,000	2031	818,000
73	Construct approximately 5,190 feet of 16-inch main on O Avenue from 6th Street to 8th Street.	1,040,000	2032	1,400,000
74	Construct approximately 3,530 feet of 12-inch main on Michigan Avenue from Howard Street to approximately 380 feet past Lancaster Drive.	620,000	2033	851,000
75	Construct approximately 2,670 feet of 16-inch main on 5th Street from Q Avenue to PQ Avenue.	535,000	2033	734,000
76	Construct approximately 2,400 feet of 12-inch main on Weaver Avenue from Kendall Avenue to Michigan Avenue.	420,000	2034	588,000
77	Replace approximately 2,700 feet of 6-inch main with new 8-inch main on Gayle Avenue from Charles Avenue to Main Street.	370,000	2034	518,000

CITY OF KALAMAZOO
CAPITAL IMPROVEMENT PROJECTS (WATER)

Project ID	Location & Description	Today's Cost	Estimated Year*	Future Cost**
78	Construct approximately 12,000 feet of 16-inch main on Mount Olivet Road from Riverview Drive to G Avenue.	2,400,000	2035	3,428,000
79	Construct approximately 5,400 feet of 12-inch main on Nazareth Road from Gull Road to existing 12-inch main south of Main Street.	945,000	2036	1,377,000
80	Construct approximately 2,900 feet of 16-inch main on Onondaga from Mount Olivet Road to Glendale Boulevard.	580,000	2037	862,000
81	Replace approximately 1,320 feet of 6-inch main with new 8-inch main on Patland Drive from G Avenue to Deerland Street.	180,000	2037	267,000
82	Replace approximately 1,130 feet of 6-inch main with new 8-inch main on Berry Street from H Avenue to Percy Avenue.	155,000	2037	230,000
83	Construct a new booster station near D Avenue and 32nd Street to create a new pressure district and maintain system pressures in the current East Side High Pressure District north of D Avenue.		TBA	
84	Connect the service area near Station Hill Street and Grandview Streets located at an elevation 840 feet and above to the High/ East Side High Pressure District after a new transmission main is installed on 33rd Street.		TBA	

*Actual year subject to change pending available funding and coordination with other infrastructure

** Future costs include annual 2 percent inflation

Table 2: Non-Pipe Assets

Below is a summary of City of Kalamazoo non-pipe water assets:

Asset Item	Quantity
Tank Structure	6
Altitude Valve	6
Central Treatment Plant	1
Generator	22
Pumps	46
Sand Filters	8
Air Stripping Tower	3
Blower	5
Clear Well	1
VFD	16
Submersible Pump	99
Casing and screen	99
Structure (Well Condo)	52
Structure (Pump Building)	26
Structure (Well Pit)	49
PRV	21

Table 3: Recurring Cost Schedule

Table 3: Recurring Cost Schedule

Item Description	Recurrence Interval	Next Occurrence	Today's Cost
Tower Inspection	every 1 years	2017	$ 6,000
Tower Cleaning	every 1 years	2017	$ 8,000
Reliability Study	every 5 years	2017	$ 15,000
Well Replacement/ Pump/Motor Replacement	every 1 years	2017	$ 300,000
Lead Service Replacement	every 1 years	2017	$ 1,500,000
New Service Connections	every 1 years	2017	$ 33,000
Computer Replacement	every 1 years	2017	$ 25,000
Large Fleet Needs, Tractors/Dump Trucks	every 1 years	2017	$ 750,000
Station Roadways	every 1 years	2017	$ 50,000
Station Generator Installation	every 1 years	2017	$ 300,000
Meter Improvement/Smart Meter Upgrade	every 1 years	2017	$ 750,000
Phosphate Upgrade	every 1 years	2017	$ 100,000
Security Upgrades	every 1 years	2017	$ 50,000
Roof Replacement	every 1 years	2017	$ 25,000

*Actual year subject to change pending available funding and coordination with other infrastructure

** Future costs include annual 2 percent inflation

Table 4: Future Costs

City of Kalamazoo

Future Costs
(not including annual operations and maintenance)

Year	Recurring Costs	Capital Improvements Priorities	Description of Major Items	Total
2018	3,975,000	1,255,000		5,230,000
2019	4,054,200	15,166,000	Station 22 Elevated Storage	19,220,200
2020	4,135,600	10,028,000	33rd Street Water Main	14,163,600
2021	4,218,100	4,482,000		8,700,100
2022	8,606,200	3,599,000		12,205,200
2023	4,372,800	10,471,000	Station 38 Construction	14,843,800
2024	4,460,200	942,000		5,402,200
2025	4,549,600	3,126,000		7,675,600
2026	4,640,500	1,129,000		5,769,500

CITY OF KALAMAZOO
CAPITAL IMPROVEMENT PROJECTS (WATER)

2027	4,751,500	1,080,000	5,831,500
2028	4,828,000	2,636,000	7,464,000
2029	4,924,700	1,154,000	6,078,700
2030	5,023,100	1,481,000	6,504,100
2031	5,123,400	818,000	5,941,400
2032	5,246,200	1,400,000	6,646,200
2033	5,330,400	1,585,000	6,915,400
2034	5,437,200	1,106,000	6,543,200
2035	5,545,900	3,428,000	8,973,900
2036	5,656,600	1,377,000	7,033,600
2037	5,792,200	1,359,000	7,151,200

FINANCIAL FORECAST

TFG
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MEMORANDUM

Proposed 2018 Water and Wastewater Rate Recommendations December 11, 2017

To: James Baker

From: Bart Foster

The exhibits accompanying this brief introductory memorandum are designed to set forth an executive summary of our analyses and recommendations regarding proposed water and wastewater rates for 2018. We are in the process of compiling detailed "rate reports" which further delineate our specific calculations and recommendations. Those reports should be available by the end of this month.

General Objectives

1. Establish a 10-year financial forecast of operating and capital financing requirements of the utilities.
    a. *Structure projected strategic combination of bond issuances, revenue financing and use of reserves to forecast financial results in a manner that fully funds the operating budget and capital improvement programs (CIPs)[1], and supports the tenets of the Utility Financial Policy and related fiscal policies of the Utilities.*
2. Conduct cost of service allocations and propose utility rate schedules to support the forecasted revenue requirements and recover allocated costs of service from customers in an equitable manner.
3. Propose rate schedules that are designed to accommodate a "rate stability" goal, and avoid dramatic fluctuations.
4. Embrace a strategy to propose rate schedules for 2018, 2019, and 2020 – to allow for a potential official approval action that would eliminate further approval actions until 2021.
5. Prepare 2018 rate schedules that represent the phased strategy introduced in (4) – even if action on all three years is not pursued.

[1] *We note that these forecasts are largely predicated on the accuracy of the long-term Capital Improvement Programs, which are often difficult to accurately forecast. The forecasts presented herein, particularly in the later years, are designed as a planning tool to be continually monitored and updated.*

Specific **Water** Objectives

1. Consider and embrace the knowledge gained during the water contract discussions over the last 3 years, including the updated asset schedule.
2. Strategically design water rate proposals to:
    a. *Allow for potential recognition of the "true-up" of the 2017 water rates;*
    b. *Embrace "glide path" implementation discussed during contract negotiations.*

Specific **Wastewater** Objectives

1. Continue to adhere to the requirements of the 1988 and 1998 Rate Settlement Agreements.
    a. *Introduce possible interpretation adjustments*
2. Strategically design wastewater rate proposals to implement the 2013, 2014, 2015, and 2015 True-Up adjustments.

Water Executive Summary Findings and Recommendations

- We project annual rate increases of 8% each year from 2018 through 2022, and 5% annually from 2023 through 2027.
- With respect to customer class water rates, we would propose using a 2020 test year and implementing cost of service changes in 3 equal steps for 2018, 2019, and 2020. This proposal would include:
    - Annual increases in Township water rates of 1.5%
    - Annual increases in City water rates of 17.0%
- This strategy is also designed to implement an estimated "2017 True-Up" of $750,000 by the end of 2020.

Wastewater Executive Summary Findings and Recommendations

- We project annual rate increases of 7% each year from 2018 through 2021, 4% annually from 2022 through 2024, and no change thereafter through 2027.
- With respect to customer class wastewater rates, we would propose using a 2020 test year and implementing cost of service changes in 3 equal steps for 2018, 2019, and 2020. This proposal would include:
    - Annual increases in Inside City *retail* wastewater rates of 5.75%
    - Annual increases in Outside City *retail* wastewater rates of 7.40%
    - No change in wastewater rates to Pfizer
    - No change in wastewater rates to Graphics Packaging
    - Annual increases in Municipal wastewater rates of 4.25%

- This strategy is also designed to implement the comprehensive Wastewater True-Up analyses for 2013, 2014, 2015, and 2016 in three equal installments during 2018, 2019, and 2020.

The findings and recommendations noted above are based on the key assumptions set forth below.

Key **Water** Assumptions

1. Asset Database – *Used to determine Rate Base and Depreciation Expense*:
    a. Fully utilize review and modifications conducted during water contract negotiations;
    b. Assume "local share" funding participation of 4.5% on all "Township Distribution Main" assets placed in service prior to 2008;
    c. Assume "local share" funding participation of 6.5% on all "Township Distribution Main" assets placed in service between 2009 and 2015.

2. PILOT
    a. Maintain the budgeted level of PILOT;
    b. Allocate PILOT to the "common to all" cost pools, so that none of the PILOT is allocable based on lateral assets (underground water mains).

3. Indirect Cost Allocations
    a. Maintain budget level of Administrative Fees and related interagency allocations

4. O&M Tracking – maintain existing methodologies

5. Rate of Return applicable to Township Customers
    a. Maintain existing methodology for all Rate Base allocable to Township Customers;
    b. Establish rate of return on equity for Township Customers at a level that equates to the 30-year Treasury Bill plus 7.01% - consistent with the approach applied for calculating the 2014 Water Rates.

6. 2017 Water Rate "True-Up"
    a. Assume a total amount "due to" Township Customers "due from" City Customers of $750,000
    b. Design proposed / projected water cost of service allocations to implement 1/3 of this true-up in 2019 and 2/3 in 2020.

Key **Wastewater** Assumptions

1. No methodology changes
    a. Continue to follow methodology established by the 1998 Rate Settlement Agreement, although . . .
    b. Implement cost of service allocations in wastewater rates in more stable manner, while continuing to implement True-Ups

2. True-Up analyses for 2013, 2014, 2015, and 2016.

As noted, we are in the process of compiling detailed "rate reports" which will provide more specific information regarding these proposed rates. Those reports should be available by the end of this month.

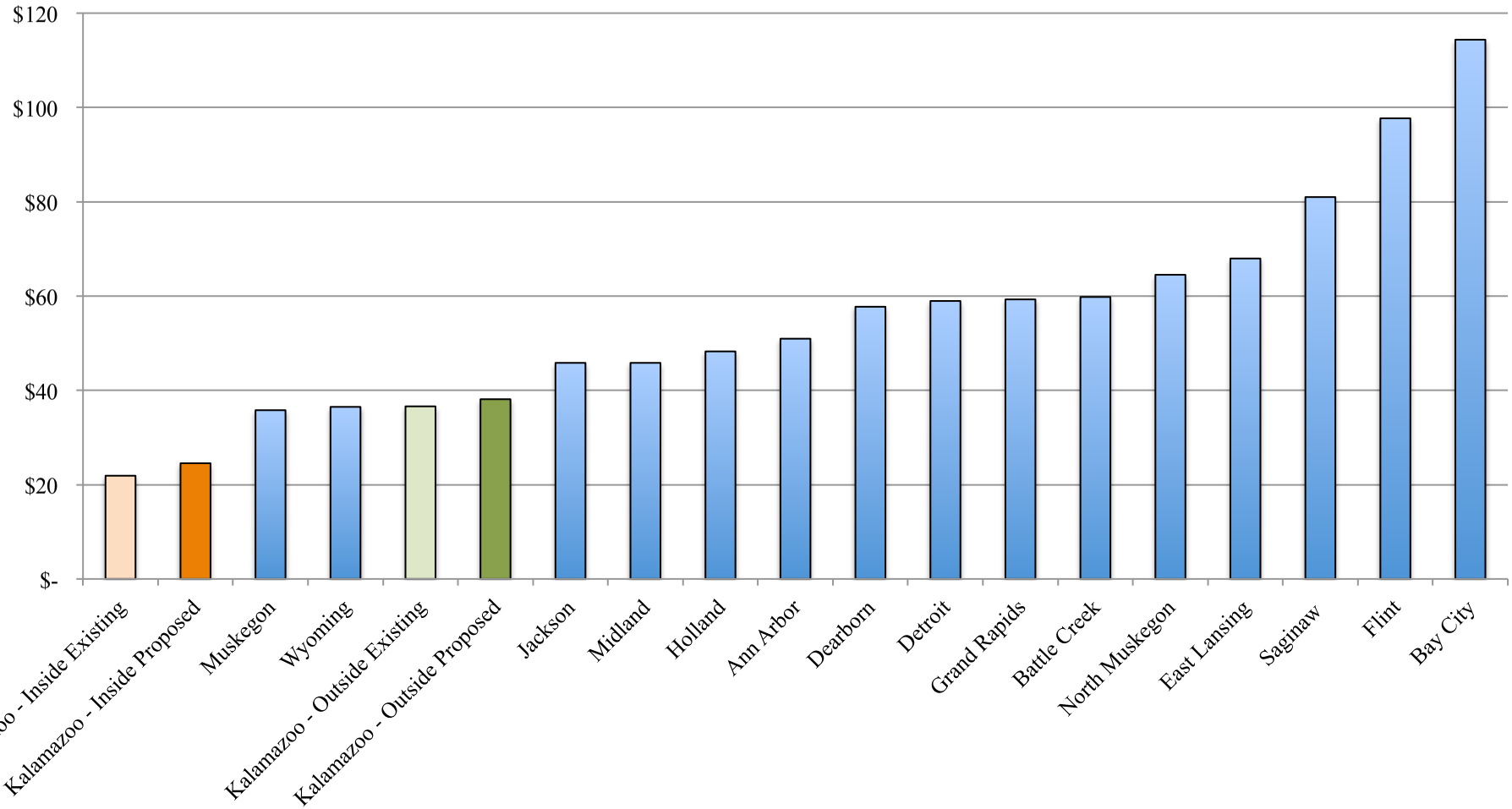
We are prepared to discuss this matter at your convenience.

Water and Wastewater Utility

Comparison of "Typical" Quarterly Residential Utility Bills Under Proposed & Projected Rates

			Proposed / Projected Rates			Change from Prior			% Change from Prior		
		Existing	2018	2019	2020	2018	2019	2020	2018	2019	2020
1	Quarterly Use - cumtr	55	55	55	55						
	City Resident										
	Water										
2	Quarterly Service Charge	21.98	25.72	30.09	35.21	3.74	4.37	5.12	17.02%	16.99%	17.02%
3	Commodity Charge	0.292	0.342	0.400	0.468	0.050	0.058	0.068	17.12%	16.96%	17.00%
4	Quarterly Water Bill	38.04	44.53	52.09	60.95	6.49	7.56	8.86	17.06%	16.98%	17.01%
5	*Cumulative Change*					*6.49*	*14.05*	*22.91*	*17.06%*	*36.93%*	*60.23%*
	Wastewater										
6	Quarterly Service Charge	7.41	7.84	8.29	8.77	0.43	0.45	0.48	5.80%	5.74%	5.79%
7	Commodity Charge	0.420	0.444	0.470	0.497	0.024	0.026	0.027	5.71%	5.86%	5.74%
8	Quarterly Wastewater Bill	30.51	32.26	34.14	36.11	1.75	1.88	1.97	5.74%	5.83%	5.76%
9	*Cumulative Change*					*1.75*	*3.63*	*5.60*	*5.74%*	*11.90%*	*18.34%*
10	**Combined Quarterly Bill**	**68.55**	**76.79**	**86.23**	**97.06**	**8.24**	**9.44**	**10.83**	**12.02%**	**12.29%**	**12.55%**
11	*Cumulative Change*					*8.24*	*17.68*	*28.51*	*12.02%*	*25.79%*	*41.58%*
	Township Resident *										
	Water										
12	Quarterly Service Charge	30.19	30.64	31.10	31.57	0.45	0.46	0.47	1.49%	1.50%	1.51%
13	Commodity Charge	0.598	0.607	0.616	0.625	0.009	0.009	0.009	1.51%	1.48%	1.46%
14	Quarterly Water Bill	63.08	64.03	64.98	65.95	0.95	0.95	0.96	1.50%	1.49%	1.49%
15	*Cumulative Change*					*0.95*	*1.90*	*2.86*	*1.50%*	*3.01%*	*4.54%*
	Wastewater										
16	Quarterly Service Charge	10.56	11.34	12.18	13.08	0.78	0.84	0.90	7.39%	7.41%	7.39%
17	Commodity Charge	0.757	0.813	0.873	0.938	0.056	0.060	0.065	7.40%	7.38%	7.45%
18	Quarterly Wastewater Bill	52.20	56.06	60.20	64.67	3.86	4.14	4.48	7.40%	7.39%	7.43%
19	*Cumulative Change*					*3.86*	*8.00*	*12.48*	*7.40%*	*15.33%*	*23.90%*
20	**Combined Quarterly Bill**	**115.28**	**120.08**	**125.18**	**130.62**	**4.80**	**5.10**	**5.44**	**4.17%**	**4.24%**	**4.35%**
21	*Cumulative Change*					*4.80*	*9.90*	*15.34*	*4.17%*	*8.59%*	*13.31%*
	Township/City Ratio										
22	*Water*	*1.66*	*1.44*	*1.25*	*1.08*	*(0.22)*	*(0.19)*	*(0.17)*	*-13.29%*	*-13.24%*	*-13.27%*
23	*Wastewater*	*1.71*	*1.74*	*1.76*	*1.79*	*0.03*	*0.03*	*0.03*	*1.57%*	*1.47%*	*1.59%*
24	*Combined*	*1.68*	*1.56*	*1.45*	*1.35*	*(0.12)*	*(0.11)*	*(0.11)*	*-7.01%*	*-7.17%*	*-7.29%*

Typical Residential* Monthly Combined Water and Wastewater Bill



* Based on 4,500 gallons (approximately 18.5 cu mtr) per month, which approximates the current Kalamazoo average residential use.
Data for other communities reflect preliminary results of a study of rates currently in effect.

Water Exhibits

Water Utility

Comparison of Existing and Proposed Water Rates
Test Year 2017

Line No.		Existing Rates /unit	Proposed Rates /unit	Variance /unit	% Variance
	Commodity Charges - /cu mtr				
	City Customer Class				
1	Single Family	0.292	0.342	0.050	17.1%
2	Multi Family	0.264	0.309	0.045	17.0%
3	Commercial	0.294	0.344	0.050	17.0%
4	Seasonal	0.455	0.532	0.077	16.9%
	Township Customer Class				
5	Single Family	0.598	0.607	0.009	1.5%
6	Multi-Family	0.401	0.407	0.006	1.5%
7	Commercial	0.449	0.456	0.007	1.6%
8	Seasonal	0.932	0.946	0.014	1.5%
	Fire Protection Detector Checks				
9	City Customers	0.288	0.337	0.049	17.0%
10	Township Customers	0.442	0.449	0.007	1.6%
	Meter Service Charges - /bill				
	City Customers - Quarterly				
11	5/8"-3/4"	21.98	25.72	3.74	17.0%
12	1"	29.18	34.14	4.96	17.0%
13	1-1/2"	36.39	42.58	6.19	17.0%
14	2"	56.19	65.74	9.55	17.0%
	City Customers - Monthly				
15	5/8"-3/4"	9.97	11.66	1.69	17.0%
16	1"	12.37	14.47	2.10	17.0%
17	1-1/2"	14.77	17.28	2.51	17.0%
18	2"	21.37	25.00	3.63	17.0%
19	3"	69.99	81.89	11.90	17.0%
20	4"	88.01	102.97	14.96	17.0%
21	6"	130.03	152.14	22.11	17.0%
22	8"	178.05	208.32	30.27	17.0%
	Township Customers - Quarterly				
23	5/8"-3/4"	30.19	30.64	0.45	1.5%
24	1"	40.67	41.28	0.61	1.5%
25	1-1/2"	51.16	51.93	0.77	1.5%
26	2"	80.01	81.21	1.20	1.5%
	Township Customers - Monthly				
27	5/8"-3/4"	12.70	12.89	0.19	1.5%
28	1"	16.20	16.44	0.24	1.5%
29	1-1/2"	19.70	20.00	0.30	1.5%
30	2"	29.31	29.75	0.44	1.5%
31	3"	100.12	101.62	1.50	1.5%
32	4"	126.34	128.24	1.90	1.5%
33	6"	187.52	190.33	2.81	1.5%
34	8"	257.45	261.31	3.86	1.5%
	Fire Protection				
	Detector Checks - Service Charges - /bill				
35	City Customer Class				
36	4"	23.32	27.28	3.96	17.0%
37	6"	29.08	34.02	4.94	17.0%
38	8"	40.59	47.49	6.90	17.0%
39	10"	86.45	101.15	14.70	17.0%
	Township Customer Class				
40	4"	36.64	37.19	0.55	1.5%
41	6"	44.73	45.40	0.67	1.5%
42	8"	60.65	61.56	0.91	1.5%
43	10"	121.74	123.57	1.83	1.5%
	Fire Hydrants - /hydrant/year				
44	Public	0.00	0.00	0.00	NA
45	Private	40.00	40.00	0.00	0.0%

Water Utility

Illustration of Water Rate Implementation Strategy

Approach 1 - Assume Annual Rate Studies

Proposed

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	2018 Rates									
	Preliminary Results of a 2018 Cost of Service Study									
		Baseline Revenue	Adjusted Rev Req't	Adjustment Required	Effective Rate Increase	Phase 2017 True-Up Adj	Total Adj Required	Effective Revenue	Effective Rate Increase	Cumulative Rate Increase
		$	$	$	%	$	$	$	%	%
		Current Rates	*2018 COS Study*	*(2) - (1)*	*(3) / (1)*	*Estimated*	*(3) + (5)*	*(1) + (6)*	*(6) / (1)*	*~ (8)*
1	City Customer Class	5,703,000	6,862,000	1,159,000	20.3%	0	1,159,000	6,862,000	20.3%	20.3%
2	Township Customer Class	8,469,300	8,453,000	(16,300)	-0.2%	0	(16,300)	8,453,000	-0.2%	-0.2%
3	Total	14,172,300	15,315,000	1,142,700	8.1%	0	1,142,700	15,315,000	8.1%	8.1%
	2019 Rates									
	Preliminary Forecast of a 2019 Cost of Service Study									
		Baseline Revenue	Adjusted Rev Req't	Adjustment Required	Effective Rate Increase	Phase 2017 True-Up Adj	Total Adj Required	Effective Revenue	Effective Rate Increase	Cumulative Rate Increase
		$	$	$	%	$	$	$	%	%
		above (7)	*2019 COS Study*	*(2) - (1)*	*(3) / (1)*	*Estimated*	*(3) + (5)*	*(1) + (6)*	*(6) / (1)*	*~ (8) + above*
4	City Customer Class	6,862,000	7,556,000	694,000	10.1%	250,000	944,000	7,806,000	13.8%	36.9%
5	Township Customer Class	8,453,000	8,983,000	530,000	6.3%	(250,000)	280,000	8,733,000	3.3%	3.1%
6	Total	15,315,000	16,539,000	1,224,000	8.0%	0	1,224,000	16,539,000	8.0%	16.7%
	2020 Rates									
	Preliminary Forecast of a 2020 Cost of Service Study									
		Baseline Revenue	Adjusted Rev Req't	Adjustment Required	Effective Rate Increase	Phase 2017 True-Up Adj	Total Adj Required	Effective Revenue	Effective Rate Increase	Cumulative Rate Increase
		$	$	$	%	$	$	$	%	%
		above (7)	*2019 COS Study*	*(2) - (1)*	*(3) / (1)*	*Estimated*	*(3) + (5)*	*(1) + (6)*	*(6) / (1)*	*~ (8) + above*
7	City Customer Class	7,806,000	8,385,900	579,900	7.4%	500,000	1,079,900	8,885,900	13.8%	55.8%
8	Township Customer Class	8,733,000	9,476,700	743,700	8.5%	(500,000)	243,700	8,976,700	2.8%	6.0%
9	Total	16,539,000	17,862,600	1,323,600	8.0%	0	1,323,600	17,862,600	8.0%	26.0%

Water Utility

Illustration of Water Rate Implementation Strategy

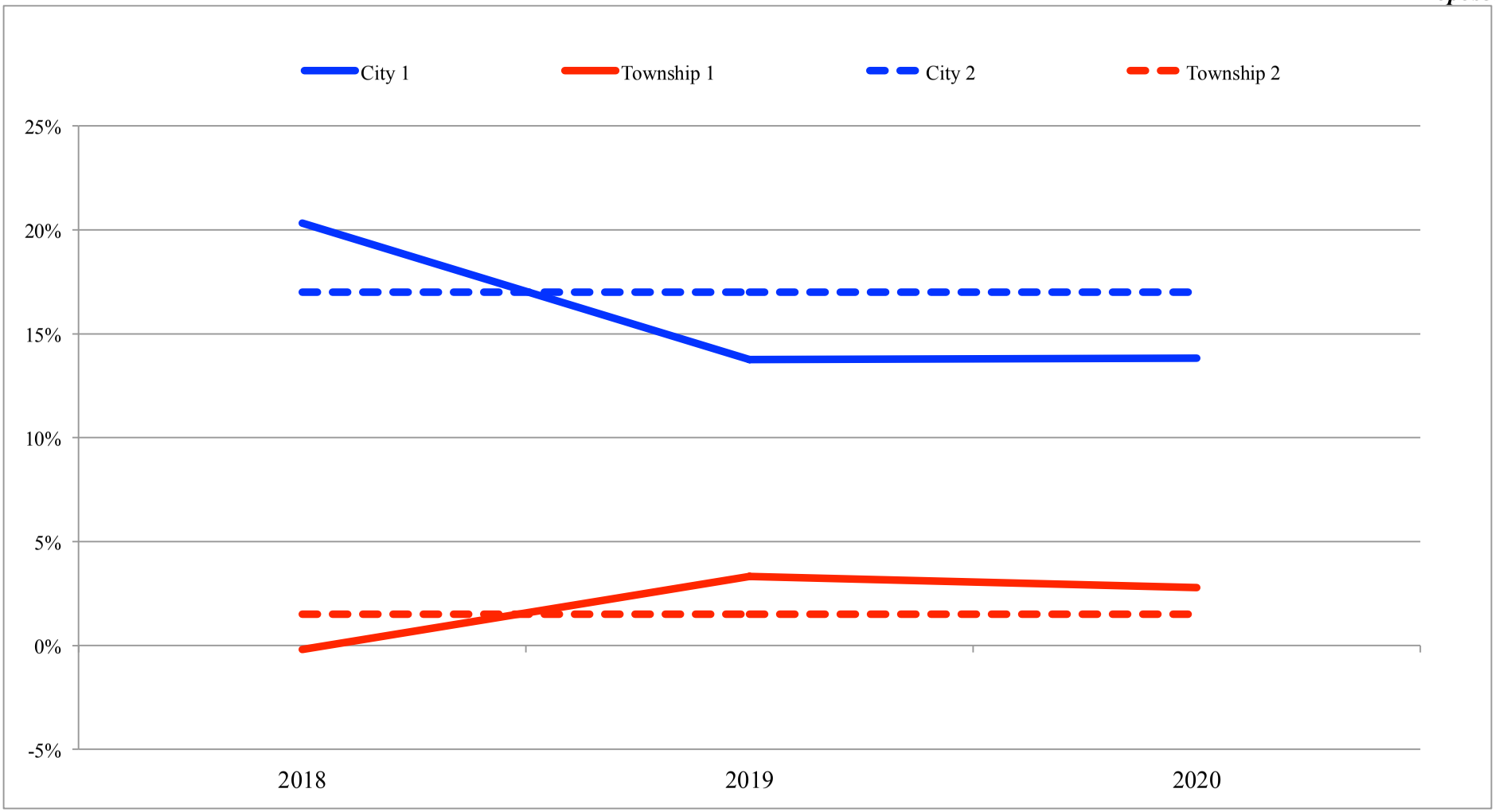
Approach 2 - Phased Implementation of 2020 Rate Study **_Proposed_**

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	2020 Rates								
	Preliminary Forecast of a 2020 Cost of Service Study								
	Phased Implementation of Preliminarily Estimated 2017 True-Up Adjustment								
		Baseline Revenue	Adjusted Rev Req't	Adjustment Required	Effective Rate Increase	Estimated 2017 T/U	Total Adj Required	Effective Cum Rate Increase	Avg Annual Rate Increase
		$	$	$	%	$		%	%
		Current Rates	*2020 COS Study*	*(2) - (1)*	*(3) / (1)*	*Estimated*	*(3) + (5)*	*(6) / (1)*	*~ 1/3 of (7)*
10	City Customer Class	5,677,700	8,385,900	2,708,200	47.70%	750,000	3,458,200	60.91%	17.18%
11	Township Customer Class	8,502,700	9,476,700	974,000	11.46%	(750,000)	224,000	2.63%	0.87%
12	Total	14,180,400	17,862,600	3,682,200	25.97%	0	3,682,200	25.97%	8.00%
							2018-2020 Cumulative Total		
	Cumulative Illustration	Baseline Revenue	Override Rate Increase	2018	2019	2020	Approach 2	Approach 1	Variance
		$	%	$	$	$	$	$	$
		Current Rates	*~ above (8)*	*(1) * [1+(2)]*	*(3) * [1+(2)]*	*(4) * [1+(2)]*	*(3) + (4) + (5)*	*Approach 1*	*(6) - (7)*
	Annual Total Revenue Req't								
13	City Customer Class	5,703,000	***17.00%***	6,672,500	7,806,800	9,134,000	23,613,300	23,553,900	59,400
14	Township Customer Class	8,469,300	***1.50%***	8,596,300	8,725,200	8,856,100	26,177,600	26,162,700	14,900
15	Total	14,172,300		15,268,800	16,532,000	17,990,100	49,790,900	49,716,600	74,300
	Rate Increase								
16	City Customer Class			*17.00%*	*17.00%*	*17.00%*	*60.16%*	*17.00%*	
17	Township Customer Class			*1.50%*	*1.50%*	*1.50%*	*4.57%*	*1.50%*	
18	Total			*7.74%*	*8.27%*	*8.82%*	*26.94%*	*8.28%*	

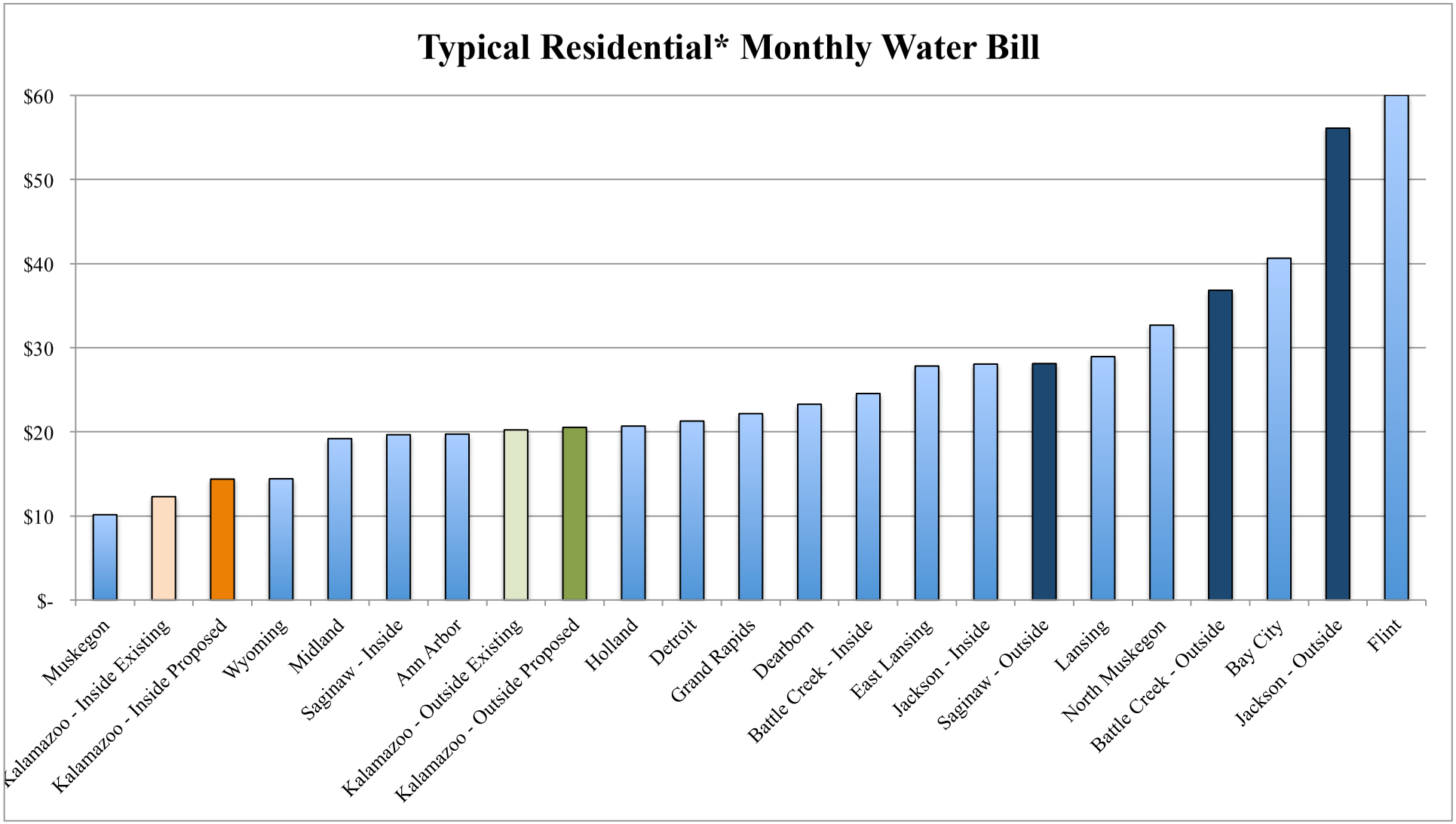
Water Utility

Illustration of Water Rate Implementation Strategy

Proposed

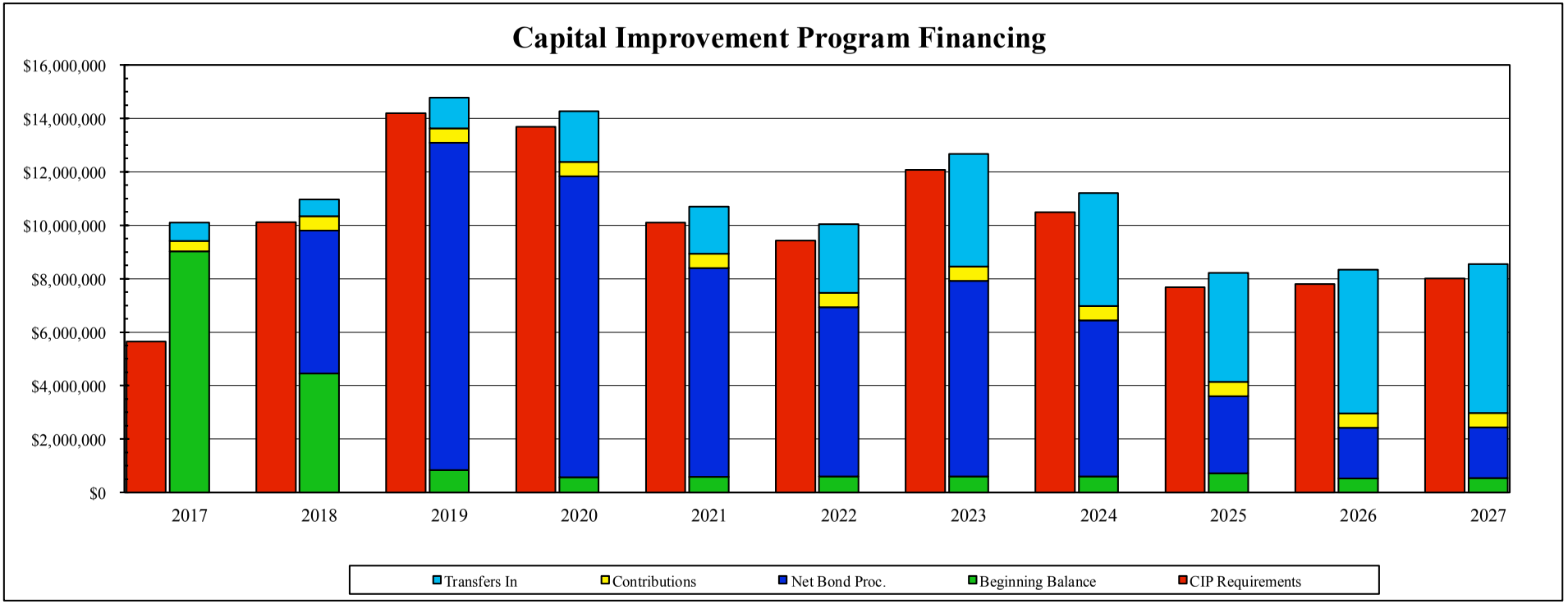


	Approach 1 Rate Adjustments			Approach 2 Rate Adjustments		
	2018	2019	2020	2018	2019	2020
City Customer Class	20.32%	13.76%	13.83%	17.00%	17.00%	17.00%
Township Customer Class	-0.19%	3.31%	2.79%	1.50%	1.50%	1.50%



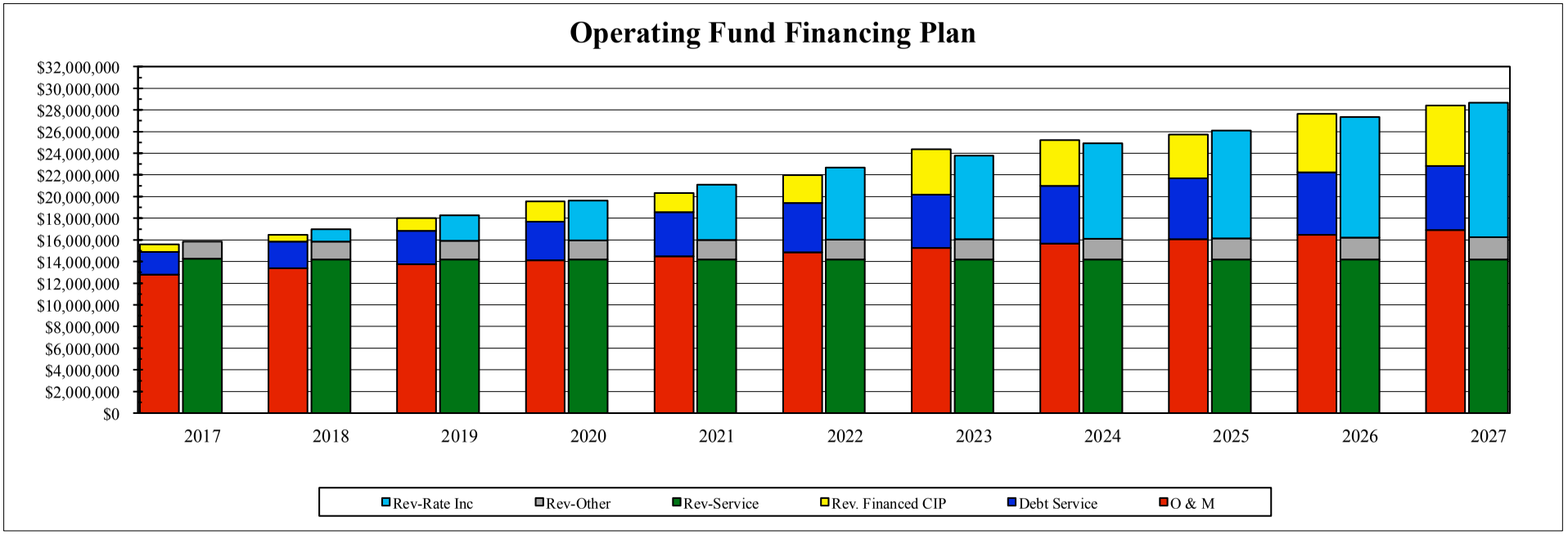
* Based on 4,500 gallons (approximately 18.5 cu mtr) per month, which approximates the current Kalamazoo average residential use.
Data for other communities reflect preliminary results of a study of rates currently in effect.

Water Utility Financial Plan Summary



	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
CIP Req't	5,654,200	10,118,600	14,194,800	13,681,400	10,094,700	9,435,300	12,071,200	10,483,200	7,688,600	7,798,800	8,013,800
Sources											
Beg Balance	9,024,100	4,452,900	844,800	576,600	587,900	599,600	599,600	599,600	719,000	523,200	538,900
Bond Sale	0	5,500,000	12,500,000	11,500,000	8,000,000	6,500,000	7,500,000	6,000,000	3,000,000	2,000,000	2,000,000
less: Issue Exp	0	(152,500)	(257,500)	(242,500)	(190,000)	(167,500)	(182,500)	(160,000)	(115,000)	(100,000)	(100,000)
Revs / Op Funds	700,000	630,000	1,150,100	1,900,200	1,760,300	2,565,700	4,215,400	4,223,200	4,067,200	5,372,700	5,570,700
CIAC	383,000	533,000	534,000	535,000	536,100	537,100	538,300	539,400	540,600	541,800	543,100
Total Sources	10,107,100	10,963,400	14,771,400	14,269,300	10,694,300	10,034,900	12,670,800	11,202,200	8,211,800	8,337,700	8,552,700
End Balance	4,452,900	844,800	576,600	587,900	599,600	599,600	599,600	719,000	523,200	538,900	538,900

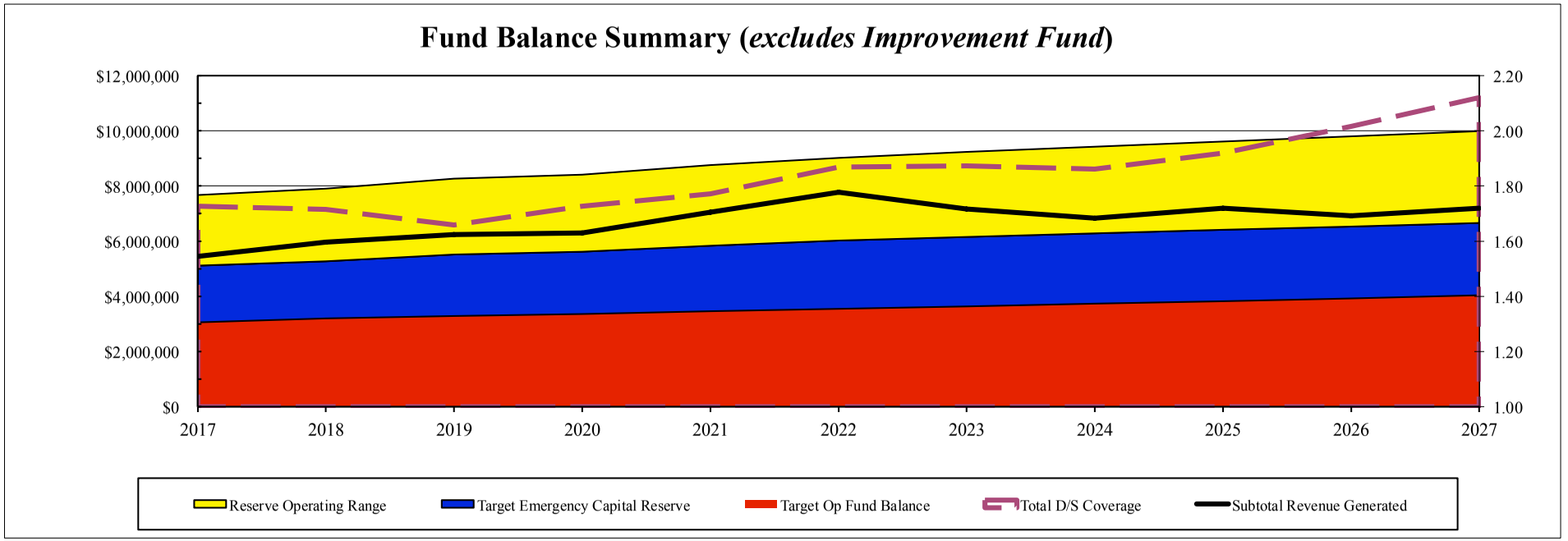
Water Utility Financial Plan Summary



	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
Revenue												
Rates	14,265,400	14,180,400	14,179,900	14,179,900	14,179,900	14,179,900	14,179,900	14,179,900	14,179,900	14,179,900	14,179,900	
Rate Increases	***0.00%***	***8.00%***	***8.00%***	***8.00%***	***8.00%***	***8.00%***	***5.00%***	***5.00%***	***5.00%***	***5.00%***	***5.00%***	*87.5%*
Rate Increases	0	1,134,400	2,359,500	3,682,700	5,111,700	6,655,000	7,696,700	8,790,500	9,939,000	11,144,900	12,411,100	
Other	1,564,200	1,664,100	1,731,500	1,768,800	1,803,300	1,849,100	1,898,000	1,937,800	1,975,900	2,028,100	2,086,400	
Total Revenue	15,829,600	16,978,900	18,270,900	19,631,400	21,094,900	22,684,000	23,774,600	24,908,200	26,094,800	27,352,900	28,677,400	
Revenue Req'ts												
O&M *	12,809,300	13,392,600	13,742,500	14,102,400	14,472,000	14,852,200	15,243,100	15,644,900	16,058,200	16,483,000	16,919,800	
Debt Service	2,085,600	2,439,900	3,102,300	3,569,800	4,107,000	4,551,200	4,927,700	5,361,500	5,615,100	5,766,000	5,913,400	
Rev. Financed CIP	700,000	630,000	1,150,100	1,900,200	1,760,300	2,565,700	4,215,400	4,223,200	4,067,200	5,372,700	5,570,700	
Total Rev Req'ts	15,594,900	16,462,500	17,994,900	19,572,400	20,339,300	21,969,100	24,386,200	25,229,600	25,740,500	27,621,700	28,403,900	
Balance - Rsrvs	234,700	516,400	276,000	59,000	755,600	714,900	(611,600)	(321,400)	354,300	(268,800)	273,500	
DS Covg	173%	172%	166%	173%	177%	187%	187%	186%	192%	202%	212%	

** Includes OPEB Debt Service and Contributions and PILOT*

Water Utility Financial Plan Summary



	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Fund Balance Mins											
Operating Fund	3,056,200	3,197,000	3,280,000	3,365,300	3,452,900	3,543,000	3,635,600	3,730,800	3,828,700	3,929,300	4,032,800
Emerg Cap	2,057,400	2,069,000	2,235,000	2,246,000	2,384,100	2,474,500	2,522,700	2,556,200	2,579,900	2,603,800	2,627,900
Subtotal	5,113,600	5,266,000	5,515,000	5,611,300	5,837,000	6,017,500	6,158,300	6,287,000	6,408,600	6,533,100	6,660,700
Range Max	7,670,400	7,899,000	8,272,500	8,416,950	8,755,500	9,026,250	9,237,450	9,430,500	9,612,900	9,799,650	9,991,050
Projections											
Operating Fund	3,391,100	3,895,900	4,005,900	4,053,900	4,671,400	5,295,900	4,636,100	4,281,200	4,611,800	4,319,100	4,568,500
Emerg Cap	2,057,400	2,069,000	2,235,000	2,246,000	2,384,100	2,474,500	2,522,700	2,556,200	2,579,900	2,603,800	2,627,900
Subtotal	5,448,500	5,964,900	6,240,900	6,299,900	7,055,500	7,770,400	7,158,800	6,837,400	7,191,700	6,922,900	7,196,400
DS Covg	173%	172%	166%	173%	177%	187%	187%	186%	192%	202%	212%
Rate Increase	***0.00%***	***8.00%***	***8.00%***	***8.00%***	***8.00%***	***8.00%***	***5.00%***	***5.00%***	***5.00%***	***5.00%***	***5.00%***	*87.5%*

Wastewater Exhibits

Wastewater Utility

Comparison of Existing and Proposed Wastewater Rates
Test Year 2018

SERVICE CHARGES

Meter Size inches	Existing Rates Inside City $/bill	Existing Rates Outside City $/bill	Proposed Rates Inside City $/bill	Proposed Rates Outside City $/bill	Variance Inside City $/bill	Variance Outside City $/bill	% Variance Inside City $/bill	% Variance Outside City $/bill
5/8	7.41	10.56	7.84	11.34	0.43	0.78	5.80%	7.39%
3/4	7.56	11.07	7.99	11.89	0.43	0.82	5.69%	7.41%
1	8.03	12.60	8.49	13.53	0.46	0.93	5.73%	7.38%
1 1/2	8.65	14.65	9.15	15.73	0.50	1.08	5.78%	7.37%
2	10.34	20.27	10.93	21.77	0.59	1.50	5.71%	7.40%
3	22.82	61.68	24.13	66.24	1.31	4.56	5.74%	7.39%
4	27.45	77.02	29.03	82.72	1.58	5.70	5.76%	7.40%
6	38.24	112.81	40.44	121.16	2.20	8.35	5.75%	7.40%
Flat Rate	*42.69*	*74.15*	*45.14*	*79.64*	2.45	5.49	5.74%	7.40%

Meter Size inches	Existing Rates Inside City /bill	Existing Rates Outside City /bill	Proposed Rates Inside City /bill	Proposed Rates Outside City /bill	Variance Inside City /bill	Variance Outside City /bill	% Variance Inside City /bill	% Variance Outside City /bill
5/8	6.38	7.16	6.75	7.69	0.37	0.53	5.80%	7.40%
3/4	6.43	7.32	6.80	7.86	0.37	0.54	5.75%	7.38%
1	6.59	7.84	6.97	8.42	0.38	0.58	5.77%	7.40%
1 1/2	6.80	8.52	7.19	9.15	0.39	0.63	5.74%	7.39%
2	7.36	10.39	7.78	11.16	0.42	0.77	5.71%	7.41%
3	11.52	24.19	12.18	25.98	0.66	1.79	5.73%	7.40%
4	13.06	29.31	13.81	31.48	0.75	2.17	5.74%	7.40%
6	16.66	41.24	17.62	44.29	0.96	3.05	5.76%	7.40%
Municipalities		5.52		5.38		0.00		0.00
Dewatering		5.52		5.38		0.00		0.00
Septage Haulers		5.52		5.38		0.00		0.00

COMMODITY CHARGES

	Existing Rates Inside City /cu mtr	Existing Rates Outside City /cu mtr	Proposed Rates Inside City /cu mtr	Proposed Rates Outside City /cu mtr	Variance Inside City /cu mtr	Variance Outside City /cu mtr	% Variance Inside City /cu mtr	% Variance Outside City /cu mtr
Residential	0.420	0.757	0.444	0.813	0.024	0.056	5.71%	7.40%
Commercial	0.420	0.757	0.444	0.813	0.024	0.056	5.71%	7.40%
Industrial	0.420	0.757	0.444	0.813	0.024	0.056	5.71%	7.40%
Municipalities								
All Other		0.492		0.513		0.021		4.27%
Galesburg		0.547		0.570		0.023		4.20%
Dewatering	0.395	0.764	0.418	0.821	0.023	0.057	5.82%	7.46%

Wastewater Utility

Comparison of Existing and Proposed Wastewater Rates *(continued)*
Test Year 2018

QUANTITY / QUALITY CHARGES

	Commodity Charge			
	Existing	Proposed	Variance	% Variance
Monitored Customers	$/cu mtr	$/cu mtr	$/cu mtr	
Pfizer	0.165	0.165	0.000	0.00%
Graphic Packaging	0.070	0.070	0.000	0.00%
Dewatering				
Inside City	0.130	0.137	0.007	5.38%
Outside City	0.433	0.465	0.032	7.39%
Industrial - Inside City	0.130	0.137	0.007	5.38%
Industrial - Outside City	0.430	0.462	0.032	7.44%

	BOD Charges			
	Unadjusted	Proposed	Variance	% Variance
Monitored Customers	$/kg	$/cu mtr	$/cu mtr	
Pfizer	0.511	0.511	0.000	0.00%
Graphic Packaging	0.468	0.468	0.000	0.00%
Dewatering				
Inside City	0.468	0.495	0.027	5.77%
Outside City	0.531	0.570	0.039	7.34%
Industrial - Inside City	0.468	0.495	0.027	5.77%
Industrial - Outside City	0.531	0.570	0.039	7.34%

	TSS Charges			
	Unadjusted	Proposed	Variance	% Variance
Monitored Customers	$/kg	$/cu mtr	$/cu mtr	
Pfizer	0.565	0.565	0.000	0.00%
Graphic Packaging	0.506	0.506	0.000	0.00%
Dewatering				
Inside City	0.506	0.535	0.029	5.73%
Outside City	0.576	0.619	0.043	7.47%
Industrial - Inside City	0.506	0.535	0.029	5.73%
Industrial - Outside City	0.576	0.619	0.043	7.47%

	NH3 Charges			
	Unadjusted	Proposed	Variance	% Variance
Monitored Customers	$/kg	$/cu mtr	$/cu mtr	
Pfizer	2.609	2.609	0.000	0.00%
Graphic Packaging	2.518	2.518	0.000	0.00%
Dewatering				
Inside City	2.518	2.663	0.145	5.76%
Outside City	2.715	2.916	0.201	7.40%
Industrial - Inside City	2.518	2.663	0.145	5.76%
Industrial - Outside City	2.715	2.916	0.201	7.40%

Wastewater Utility

Illustration of Wastewater Rate Implementation Strategy

Approach 1 - Assume Annual Rate Studies

Proposed

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	2018 Rates	*Preliminary Forecast of a 2018 Cost of Service Study*								
		Baseline Revenue	Adjusted Rev Req't	Adjustment Required	Effective Rate Increase	Phased True-Up Adjustment	Total Adj Required	Effective Revenue	Effective Rate Increase	Cumulative Rate Increase
		$	$	$	%	$	$	$	%	%
		Current Rates	*2018 COS Study*	*(2) - (1)*	*(3) / (1)*	*1/3 of 2013-2016*	*(3) + (5)*	*(1) + (6)*	*(6) / (1)*	*~ (8)*
1	Inside City Retail	4,643,200	4,616,200	(27,000)	-0.6%		(27,000)	4,616,200	-0.6%	-0.6%
2	Outside City Retail	6,150,600	6,891,000	740,400	12.0%	(77,100)	663,300	6,813,900	10.8%	10.8%
3	Pfizer	3,693,900	4,030,300	336,400	9.1%	(623,600)	(287,200)	3,406,700	-7.8%	-7.8%
4	Graphics Packaging	1,238,200	1,170,500	(67,700)	-5.5%		(67,700)	1,170,500	-5.5%	-5.5%
5	Municipalities	3,882,700	4,268,500	385,800	9.9%	(351,000)	34,800	3,917,500	0.9%	0.9%
6	Total	19,608,600	20,976,500	1,367,900	7.0%	(1,051,700)	316,200	19,924,800	1.6%	1.6%
7	*Subtotal Inside City*	*5,881,400*	*5,786,700*	*(94,700)*	*-1.6%*	*0*	*(94,700)*	*5,786,700*	*-1.6%*	*-1.6%*
8	*Subtotal Outside City*	*13,727,200*	*15,189,800*	*1,462,600*	*10.7%*	*(1,051,700)*	*410,900*	*14,138,100*	*3.0%*	*3.0%*
	2019 Rates	*Preliminary Forecast of a 2019 Cost of Service Study*								
		Baseline Budg Revenue	Adjusted Rev Req't	Adjustment Required	Effective Rate Increase	Phased True-Up Adjustment	Total Adj Required	Effective Revenue	Effective Rate Increase	Cumulative Rate Increase
		$	$	$	%	$	$	$	%	%
		Above (7)	*2019 COS Study*	*(2) - (1)*	*(3) / (1)*	*1/3 of 2013-2016*	*(3) + (5)*	*(1) + (6)*	*(6) / (1)*	*~ (8) + above*
9	Inside City Retail	4,616,200	5,119,000	502,800	10.9%		502,800	5,119,000	10.9%	10.2%
10	Outside City Retail	6,813,900	7,195,600	381,700	5.6%	(77,100)	304,600	7,118,500	4.5%	15.7%
11	Pfizer	3,406,700	4,346,900	940,200	27.6%	(623,600)	316,600	3,723,300	9.3%	0.8%
12	Graphics Packaging	1,170,500	1,191,900	21,400	1.8%		21,400	1,191,900	1.8%	-3.7%
13	Municipalities	3,917,500	4,591,700	674,200	17.2%	(351,000)	323,200	4,240,700	8.3%	9.2%
14	Total	19,924,800	22,445,100	2,520,300	12.6%	(1,051,700)	1,468,600	21,393,400	7.4%	9.1%
15	*Subtotal Inside City*	*5,786,700*	*6,310,900*	*524,200*	*9.1%*	*0*	*524,200*	*6,310,900*	*9.1%*	*7.3%*
16	*Subtotal Outside City*	*14,138,100*	*16,134,200*	*1,996,100*	*14.1%*	*(1,051,700)*	*944,400*	*15,082,500*	*6.7%*	*9.9%*
	2020 Rates	*Preliminary Forecast of a 2020 Cost of Service Study*								
		Baseline Revenue	Adjusted Rev Req't	Adjustment Required	Effective Rate Increase	Phased True-Up Adjustment	Total Adj Required	Effective Revenue	Effective Rate Increase	Cumulative Rate Increase
		$	$	$	%	$	$	$	%	%
		Above (7)	*2020 COS Study*	*(2) - (1)*	*(3) / (1)*	*1/3 of 2013-2016*	*(3) + (5)*	*(1) + (6)*	*(6) / (1)*	*~ (8) + above*
17	Inside City Retail	5,119,000	5,880,300	761,300	14.9%		761,300	5,880,300	14.9%	26.6%
18	Outside City Retail	7,118,500	7,461,400	342,900	4.8%	(77,000)	265,900	7,384,400	3.7%	20.1%
19	Pfizer	3,723,300	4,536,100	812,800	21.8%	(623,600)	189,200	3,912,500	5.1%	5.9%
20	Graphics Packaging	1,191,900	1,289,200	97,300	8.2%		97,300	1,289,200	8.2%	4.1%
21	Municipalities	4,240,700	4,848,400	607,700	14.3%	(351,000)	256,700	4,497,400	6.1%	15.8%
22	Total	21,393,400	24,015,400	2,622,000	12.3%	(1,051,600)	1,570,400	22,963,800	7.3%	17.1%
23	*Subtotal Inside City*	*6,310,900*	*7,169,500*	*858,600*	*13.6%*	*0*	*858,600*	*7,169,500*	*13.6%*	*21.9%*
24	*Subtotal Outside City*	*15,082,500*	*16,845,900*	*1,763,400*	*11.7%*	*(1,051,600)*	*711,800*	*15,794,300*	*4.7%*	*15.1%*

Wastewater Utility

Illustration of Wastewater Rate Implementation Strategy

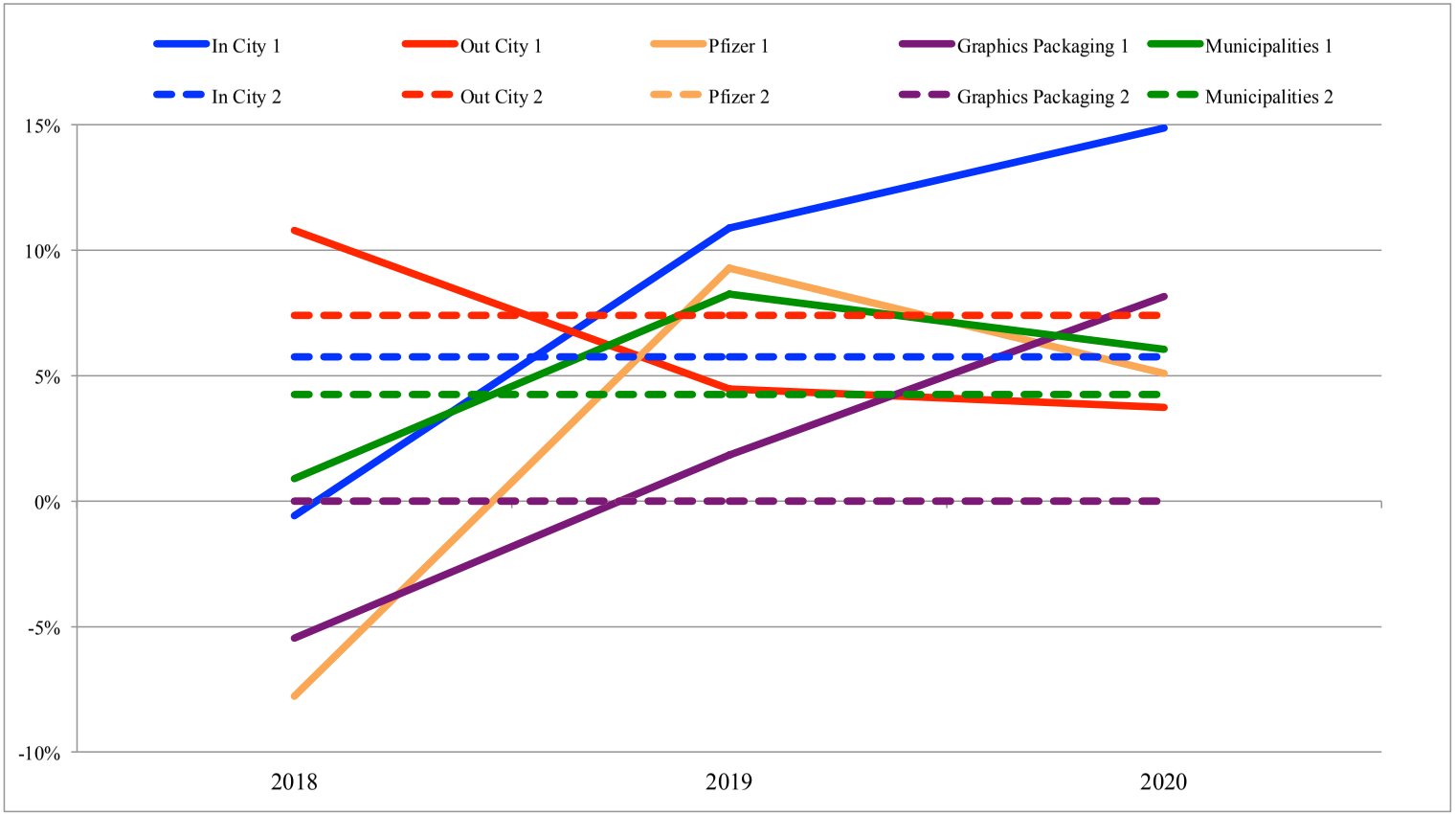
Approach 2 - Phased Implementation of 2020 Rate Study ***Proposed***

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	2020 Rates								
	Preliminary Forecast of a 2020 Cost of Service Study								
	Phased Implementation of 2013 - 2016 True-Up Adjustments								
		Baseline Revenue	Adjusted Rev Req't	Adjustment Required	Effective Rate Increase	Phased True-Up Adjustment	Total Adj Required	Effective Cum Rate Increase	Avg Annual Rate Increase
		$	$	$	%	$	$	%	%
		Current Rates	*2020 COS Study*	*(2) - (1)*	*(3) / (1)*	*2013-2016*	*(3) + (5)*	*(6) / (1)*	*~ 1/3 of (7)*
1	Inside City Retail	4,643,200	5,880,300	1,237,100	26.6%		1,237,100	26.64%	8.19%
2	Outside City Retail	6,150,600	7,461,400	1,310,800	21.3%	(231,200)	1,079,600	17.55%	5.54%
3	Pfizer	3,693,900	4,536,100	842,200	22.8%	(1,870,800)	(1,028,600)	-27.85%	-10.31%
4	Graphics Packaging	1,238,200	1,289,200	51,000	4.1%		51,000	4.12%	1.35%
5	Municipalities	3,882,700	4,848,400	965,700	24.9%	(1,053,000)	(87,300)	-2.25%	-0.76%
6	Total	19,608,600	24,015,400	4,406,800	22.5%	(3,155,000)	1,251,800	6.38%	2.08%
7	*Subtotal Inside City*	*5,881,400*	*7,169,500*	*1,288,100*	*21.9%*	*0*	*1,288,100*	21.90%	6.82%
8	*Subtotal Outside City*	*13,727,200*	*16,845,900*	*3,118,700*	*22.7%*	*(3,155,000)*	*(36,300)*	-0.26%	-0.09%
								2018-2020 Cumulative Total	
	Cumulative Illustration	Baseline Revenue	Override Rate Increase	2018	2019	2020	Approach 2	Approach 1	Variance
		$	%	$	$	$	$	$	$
		Current Rates	*~ above (8)*	*(1) * [1+(2)]*	*(3) * [1+(2)]*	*(4) * [1+(2)]*	*(3) + (4) + (5)*	*Approach 1*	*(6) - (7)*
	Annual Total Revenue Req't								
9	Inside City Retail	4,643,200	***5.75%***	4,910,200	5,192,500	5,491,100	15,593,800	15,615,500	(21,700)
10	Outside City Retail	6,150,600	***7.40%***	6,605,700	7,094,500	7,619,500	21,319,700	21,316,800	2,900
11	Pfizer	3,693,900	***0.00%***	3,693,900	3,693,900	3,693,900	11,081,700	11,042,500	39,200
12	Graphics Packaging	1,238,200	***0.00%***	1,238,200	1,238,200	1,238,200	3,714,600	3,651,600	63,000
13	Municipalities	3,882,700	***4.25%***	4,047,700	4,219,700	4,399,000	12,666,400	12,655,600	10,800
14	Total	19,608,600		20,495,700	21,438,800	22,441,700	64,376,200	64,282,000	94,200
15	*Subtotal Inside City*	*5,881,400*	*4.59%*	*6,148,400*	*6,430,700*	*6,729,300*	*19,308,400*	*19,267,100*	*41,300*
16	*Subtotal Outside City*	*13,727,200*	*4.61%*	*14,347,300*	*15,008,100*	*15,712,400*	*45,067,800*	*45,014,900*	*52,900*
	Rate Increase								
17	Inside City Retail			*5.75%*	*5.75%*	*5.75%*	*18.26%*	*5.75%*	
18	Outside City Retail			*7.40%*	*7.40%*	*7.40%*	*23.88%*	*7.40%*	
19	Pfizer			*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	
20	Graphics Packaging			*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	
21	Municipalities			*4.25%*	*4.25%*	*4.25%*	*13.30%*	*4.25%*	
22	Total			*4.52%*	*4.60%*	*4.68%*	*14.45%*	*4.60%*	
23	*Subtotal Inside City*			*4.54%*	*4.59%*	*4.64%*	*14.42%*	*4.59%*	
24	*Subtotal Outside City*			*4.52%*	*4.61%*	*4.69%*	*14.46%*	*4.61%*	

Wastewater Utility

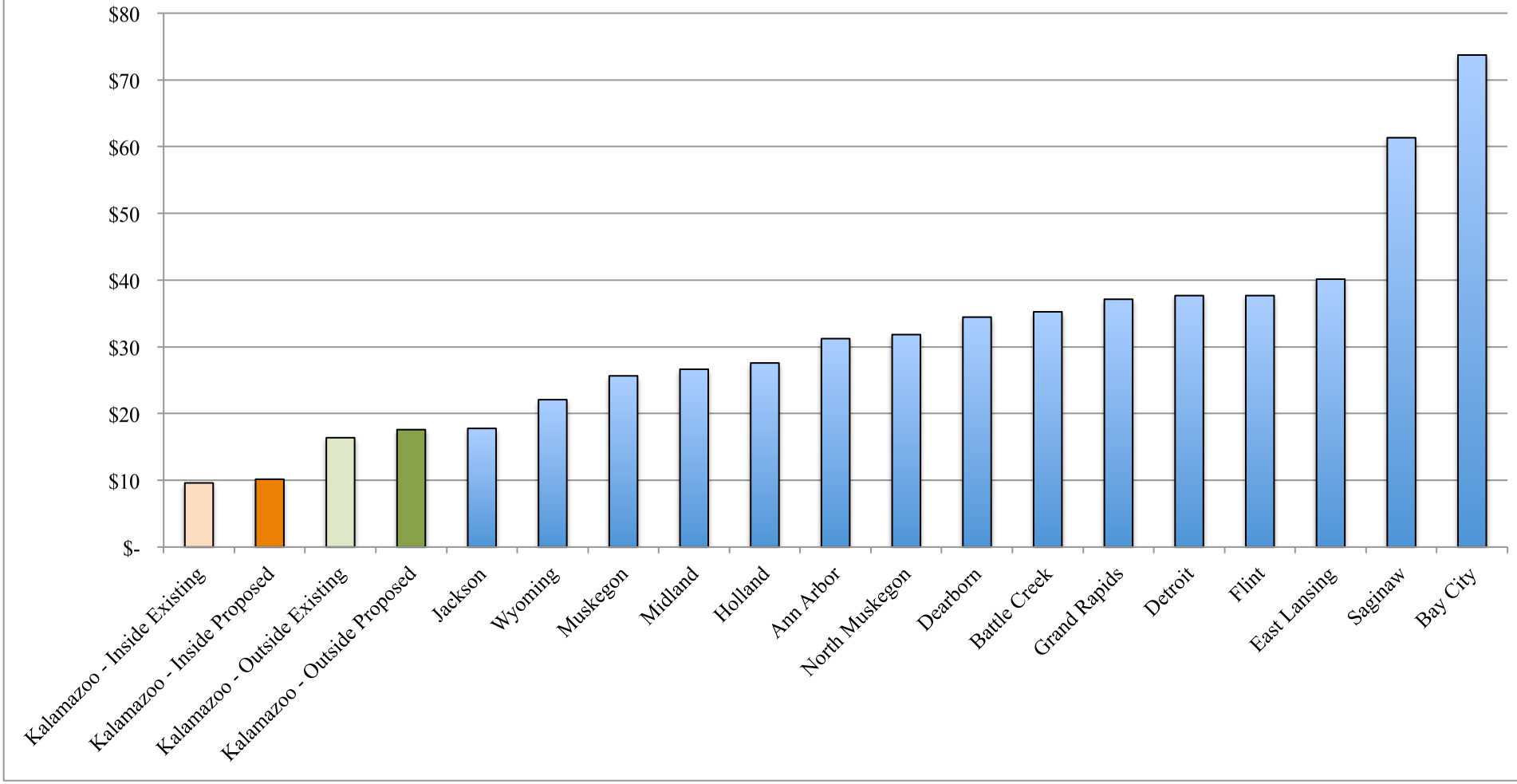
Illustration of Wastewater Rate Implementation Strategy

Proposed



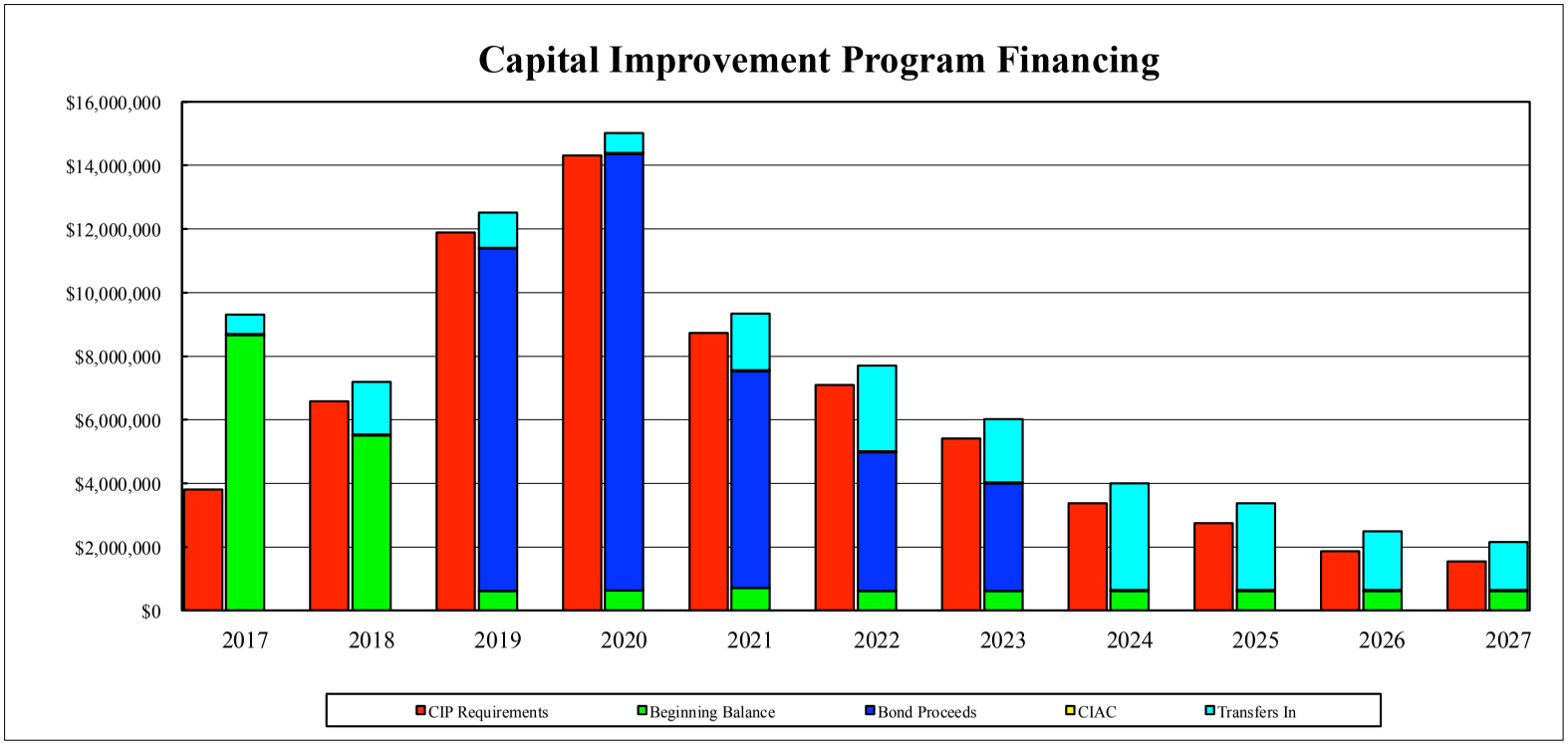
	Approach 1 Rate Adjustments			Approach 2 Rate Adjustments		
	2018	2019	2020	2018	2019	2020
Inside City Retail	-0.58%	10.89%	14.87%	5.75%	5.75%	5.75%
Outside City Retail	10.78%	4.47%	3.74%	7.40%	7.40%	7.40%
Pfizer	-7.77%	9.29%	5.08%	0.00%	0.00%	0.00%
Graphics Packaging	-5.47%	1.83%	8.16%	0.00%	0.00%	0.00%
Municipalities	0.90%	8.25%	6.05%	4.25%	4.25%	4.25%

Typical Residential* Monthly Wastewater Bill



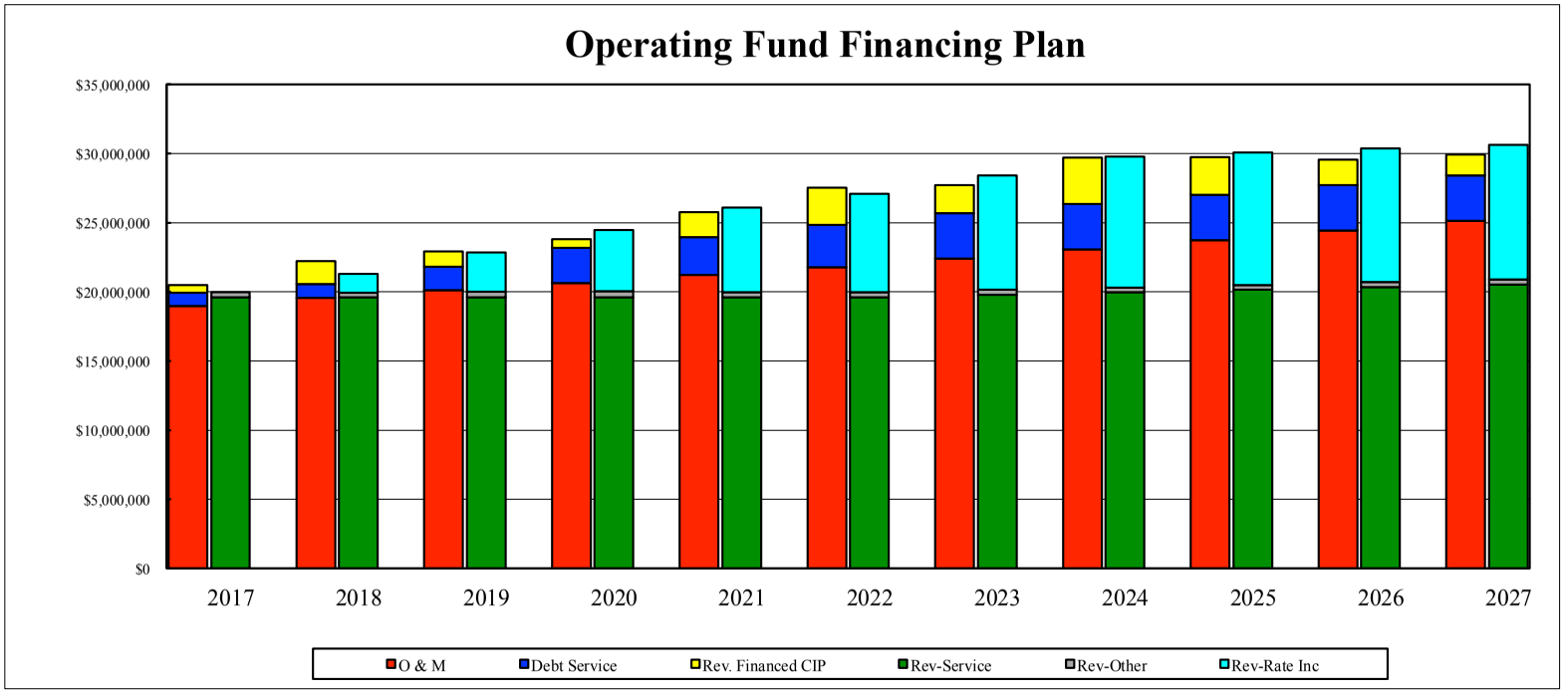
* Based on 4,500 gallons (approximately 18.5 cu mtr) per month, which approximates the current Kalamazoo average residential use.
Data for other communities reflect preliminary results of a study of rates currently in effect.

Wastewater Utility Financial Plan Summary



	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
CIP Req't	3,798,000	6,575,000	11,885,000	14,315,000	8,725,000	7,091,000	5,406,000	3,375,000	2,750,000	1,865,000	1,540,000
Sources											
Beg Balance	8,668,200	5,509,600	620,000	635,000	705,000	620,000	620,000	620,000	620,000	620,000	620,000
Bond Sale	0	0	11,000,000	14,000,000	7,000,000	4,500,000	3,500,000	0	0	0	0
less: Issue Exp	0	0	(235,000)	(280,000)	(175,000)	(137,500)	(122,500)	0	0	0	0
Revs / Op Funds	609,400	1,655,400	1,105,000	635,000	1,785,000	2,698,500	1,998,500	3,345,000	2,720,000	1,835,000	1,510,000
CIAC	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Total Sources	9,307,600	7,195,000	12,520,000	15,020,000	9,345,000	7,711,000	6,026,000	3,995,000	3,370,000	2,485,000	2,160,000
End Balance	5,509,600	620,000	635,000	705,000	620,000	620,000	620,000	620,000	620,000	620,000	620,000

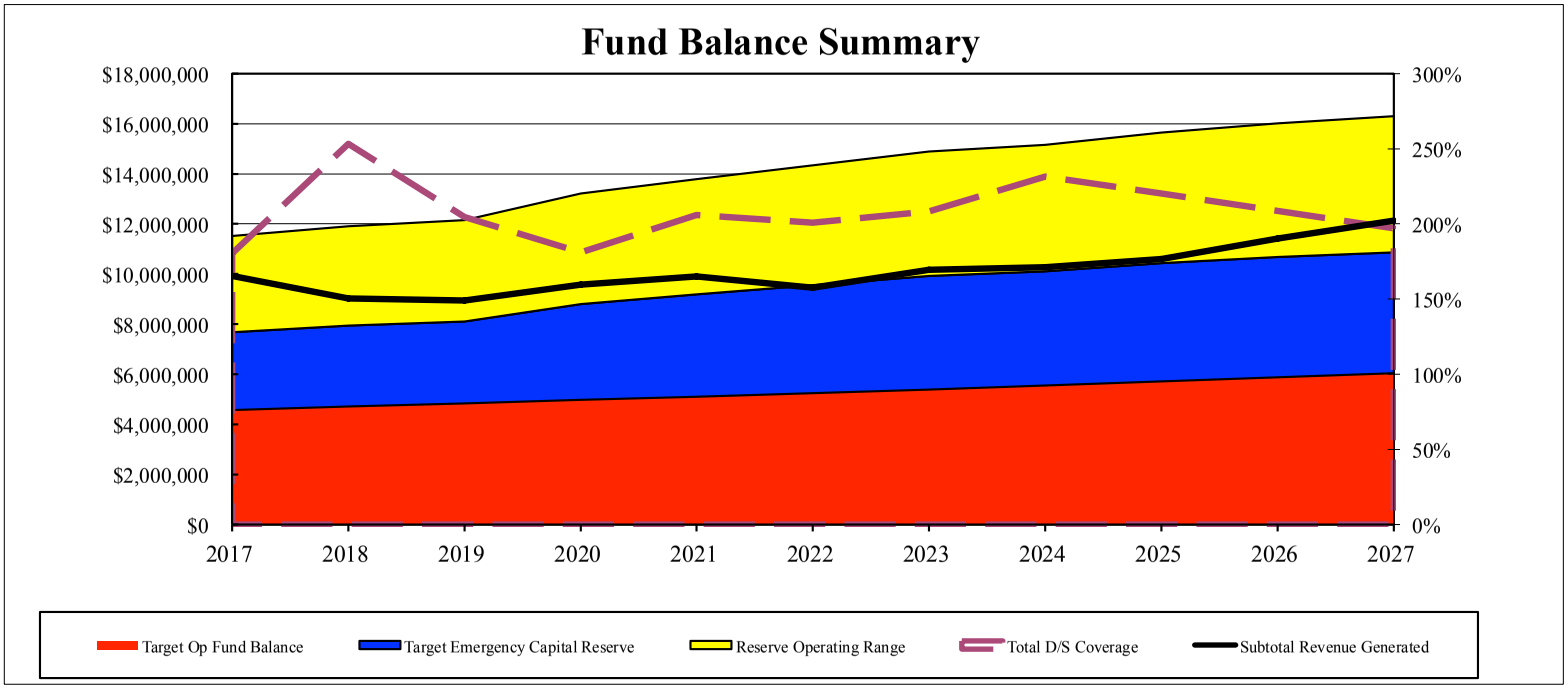
Wastewater Utility Financial Plan Summary



	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
Revenue												
Rates	19,606,500	19,603,900	19,603,900	19,603,900	19,603,900	19,603,900	19,785,700	19,972,000	20,157,100	20,343,900	20,529,300	
Rate Increases	***0.00%***	***7.00%***	***7.00%***	***7.00%***	***7.00%***	***4.00%***	***4.00%***	***4.00%***	***0.00%***	***0.00%***	***0.00%***	47.4%
Rate Increases	0	1,372,300	2,840,600	4,411,700	6,092,800	7,120,700	8,265,600	9,476,100	9,564,000	9,652,600	9,740,500	
Other	384,000	321,000	402,600	437,300	386,100	364,000	362,200	344,600	347,900	356,900	370,800	
Total Revenue	19,990,500	21,297,200	22,847,100	24,452,900	26,082,800	27,088,600	28,413,500	29,792,700	30,069,000	30,353,400	30,640,600	
Revenue Req'ts												
O&M *	18,983,900	19,582,800	20,110,400	20,653,000	21,211,300	21,785,500	22,415,200	23,064,000	23,732,700	24,421,800	25,131,800	
Debt Service	965,900	967,300	1,707,300	2,528,700	2,753,500	3,051,400	3,286,100	3,287,500	3,288,000	3,286,000	3,281,600	
Rev. Financed CIP	537,600	1,655,400	1,105,000	635,000	1,785,000	2,698,500	1,998,500	3,345,000	2,720,000	1,835,000	1,510,000	
Total Rev Req'ts	20,487,400	22,205,500	22,922,700	23,816,700	25,749,800	27,535,400	27,699,800	29,696,500	29,740,700	29,542,800	29,923,400	
Balance - Rsrvs	(496,900)	(908,300)	(75,600)	636,200	333,000	(446,800)	713,700	96,200	328,300	810,600	717,200	
True Up Recovery	0	0	0	0	0	0	0	0	0	0	0	
DS Covg	180%	253%	205%	181%	206%	201%	208%	231%	220%	209%	197%	

** Includes OPEB Debt Service and Contributions and PILOT*

Wastewater Utility Financial Plan Summary



	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
Fund Balance Mins												
Operating Fund	4,562,300	4,712,100	4,838,500	4,968,400	5,102,200	5,239,700	5,390,900	5,546,700	5,707,300	5,872,800	6,043,400	
Emerg Cap	3,112,700	3,220,300	3,268,800	3,840,300	4,084,600	4,320,000	4,534,300	4,552,600	4,726,900	4,799,900	4,828,100	
Subtotal	7,675,000	7,932,400	8,107,300	8,808,700	9,186,800	9,559,700	9,925,200	10,099,300	10,434,200	10,672,700	10,871,500	
Range Max	11,512,500	11,898,600	12,161,000	13,213,100	13,780,200	14,339,600	14,887,800	15,149,000	15,651,300	16,009,100	16,307,300	
Projections												
Operating Fund	6,813,300	5,797,400	5,673,300	5,738,000	5,826,700	5,144,500	5,643,900	5,721,800	5,875,800	6,613,400	7,302,400	
Emerg Cap	3,112,700	3,220,300	3,268,800	3,840,300	4,084,600	4,320,000	4,534,300	4,552,600	4,726,900	4,799,900	4,828,100	
Subtotal	9,926,000	9,017,700	8,942,100	9,578,300	9,911,300	9,464,500	10,178,200	10,274,400	10,602,700	11,413,300	12,130,500	
DS Covg	180%	253%	205%	181%	206%	201%	208%	231%	220%	209%	197%	
Rate Increase	***0.00%***	***7.00%***	***7.00%***	***7.00%***	***7.00%***	***4.00%***	***4.00%***	***4.00%***	***0.00%***	***0.00%***	***0.00%***	*47.4%*

Additional Material

Wastewater Utility

Cost of Service Allocated to Customer Class
True Up Years 2013, 2014, 2015, AND 2016

No.		(1) Allocated Cost of Service	(2) Adjustments	(3) Adjusted Allocated Cost of Service	(4) Billed Revenue	(5) Variance	(6) % Variance
1	Residential	7,885,400	452,000	8,337,400	7,056,300	1,281,100	18.2%
2	Commercial	8,846,400	506,200	9,352,600	7,801,500	1,551,100	19.9%
3	Industrial	1,435,000	81,500	1,516,500	1,113,100	403,400	36.2%
4	Industrial Monitored	1,285,500	73,800	1,359,300	1,190,100	169,200	14.2%
5	Total	19,452,300	1,113,500	20,565,800	17,161,000	3,404,800	19.8%
	Outside City						
6	Residential	10,417,100	(131,700)	10,285,400	10,109,900	175,500	1.7%
7	Commercial	9,042,700	(114,500)	8,928,200	8,881,700	46,500	0.5%
8	Industrial	584,700	(7,400)	577,300	571,600	5,700	1.0%
9	Industrial Monitored	5,126,000	(64,500)	5,061,500	5,535,000	(473,500)	-8.6%
10	Total	25,170,500	(318,100)	24,852,400	25,098,200	(245,800)	-1.0%
	Contract						
11	Pfizer	16,631,200	(605,700)	16,025,500	17,896,300	(1,870,800)	-10.5%
12	Graphic Packaging	4,303,200	247,900	4,551,100	4,840,100	(289,000)	-6.0%
13	Total	20,934,400	(357,800)	20,576,600	22,736,400	(2,159,800)	-9.5%
	Municipalities						
14	Portage	10,948,900	(314,500)	10,634,400	11,400,200	(765,800)	-6.7%
15	Galesburg	311,100	(8,900)	302,200	315,400	(13,200)	-4.2%
16	Parchment	310,000	(8,900)	301,100	322,700	(21,600)	-6.7%
17	Vicksburg	567,500	(16,400)	551,100	590,700	(39,600)	-6.7%
18	Gull Lake	2,024,300	(58,100)	1,966,200	2,107,300	(141,100)	-6.7%
19	Augusta	159,800	(4,600)	155,200	166,100	(10,900)	-6.6%
20	Mattawan	663,700	(19,100)	644,600	690,200	(45,600)	-6.6%
21	South County	227,100	(6,500)	220,600	235,800	(15,200)	-6.4%
22	Total	15,212,400	(437,000)	14,775,400	15,828,400	(1,053,000)	-6.7%
	Dewatering						
23	Inside City	236,400	0	236,400	196,300	40,100	20.4%
24	Outside City	32,700	0	32,700	18,100	14,600	80.7%
25	Total	269,100	0	269,100	214,400	54,700	25.5%
26	TOTAL	81,038,900	400	81,039,300	81,038,400	900	0.0%
27	*Inside City Subtotal*	*23,991,900*	*1,361,400*	*25,353,300*	*22,197,400*	*3,155,900*	*14.2%*
28	*Outside City Subtotal*	*57,047,000*	*(1,361,000)*	*55,686,000*	*58,841,000*	*(3,155,000)*	*-5.4%*
	Summary by Year						
29	2013 Credit	15,327,800	(328,500)	14,999,300	15,773,500	(774,200)	*-4.9%*
30	2014 Credit	15,385,500	(347,200)	15,038,300	15,448,000	(409,700)	*-2.7%*
31	2015 Credit	12,803,100	(343,200)	12,459,900	13,887,100	(1,427,200)	*-10.3%*
32	2016 Credit	13,531,200	(342,700)	13,188,500	13,732,400	(543,900)	*-4.0%*
33	Total Credit	57,047,600	(1,361,600)	55,686,000	58,841,000	(3,155,000)	*-5.4%*

Wastewater True-Up Revenue Requirement Comparison

		Baseline Figures			Preliminary True-Up Review					*Variance from Planned*					
		2012	2014	4-Year Total	2013	2014	2015	2016	4-Year Total	*2013*	*2014*	*2015*	*2016*	*4-Year Total*	
	Billed Wastewater Volumes- *cu mtr*														
1	*Inside City Retail & Ind Monitored*	*9,780,400*	*9,401,800*	*37,985,800*	*9,365,900*	*8,688,500*	*9,030,900*	*8,959,400*	*36,044,700*	*(414,500)*	*(713,300)*	*(370,900)*	*(442,400)*	*(1,941,100)*	*-5.1%*
2	*Outside City Retail & Ind Monitored*	*5,808,700*	*5,776,200*	*23,137,300*	*5,992,700*	*5,665,500*	*6,022,100*	*6,054,300*	*23,734,600*	*184,000*	*(110,700)*	*245,900*	*278,100*	*597,300*	*2.6%*
3	*Pfizer*	*3,411,300*	*3,663,600*	*14,402,100*	*3,651,700*	*3,203,600*	*3,287,800*	*3,315,600*	*13,458,700*	*240,400*	*(460,000)*	*(375,800)*	*(348,000)*	*(943,400)*	*-6.6%*
4	*Graphics Packaging*	*998,400*	*1,000,400*	*3,999,600*	*1,029,400*	*1,068,800*	*1,158,300*	*1,120,000*	*4,376,500*	*31,000*	*68,400*	*157,900*	*119,600*	*376,900*	*9.4%*
5	*Municipalities*	*7,572,400*	*7,829,500*	*31,060,900*	*8,029,700*	*8,082,000*	*7,826,300*	*7,923,800*	*31,861,800*	*457,300*	*252,500*	*(3,200)*	*94,300*	*800,900*	*2.6%*
6	*Inside Dewatering*	*23,400*	*134,400*	*426,600*	*99,300*	*155,800*	*156,700*	*110,700*	*522,500*	*75,900*	*21,400*	*22,300*	*(23,700)*	*95,900*	*22.5%*
7	*Outside Dewatering*	*76,600*	*10,200*	*107,200*	*5,100*	*11,600*	*13,200*	*10,600*	*40,500*	*(71,500)*	*1,400*	*3,000*	*400*	*(66,700)*	*-62.2%*
8	*Septage Haulers*	*300*	*0*	*300*	*0*	*0*	*0*	*0*	*0*	*(300)*	*0*	*0*	*0*	*(300)*	*-100.0%*
9	*Total Billed Volumes*	*27,671,500*	*27,816,100*	*111,119,800*	*28,173,800*	*26,875,800*	*27,495,300*	*27,494,400*	*110,039,300*	*502,300*	*(940,300)*	*(320,800)*	*(321,700)*	*(1,080,500)*	*-1.0%*
	Revenues														
10	Inside City Retail & Ind Monitored	4,585,900	4,743,700	18,817,000	4,017,400	4,197,200	4,496,100	4,450,200	17,160,900	*(568,500)*	*(546,500)*	*(247,600)*	*(293,500)*	*(1,656,100)*	*-8.8%*
11	Outside City Retail & Ind Monitored	5,765,500	6,198,500	24,361,000	6,574,600	6,277,300	6,120,400	6,126,100	25,098,400	*809,100*	*78,800*	*(78,100)*	*(72,400)*	*737,400*	*3.0%*
12	Pfizer	4,155,900	4,795,500	18,542,400	5,143,900	5,153,900	3,902,400	3,696,100	17,896,300	*988,000*	*358,400*	*(893,100)*	*(1,099,400)*	*(646,100)*	*-3.5%*
13	Graphics Packaging	1,203,300	1,084,900	4,458,000	1,033,700	1,282,300	1,290,700	1,233,500	4,840,200	*(169,600)*	*197,400*	*205,800*	*148,600*	*382,200*	*8.6%*
14	Municipalities	3,827,200	3,858,200	15,401,800	4,052,800	4,011,800	3,858,600	3,905,200	15,828,400	*225,600*	*153,600*	*400*	*47,000*	*426,600*	*2.8%*
15	Inside Dewatering	8,400	53,900	170,100	32,900	57,400	62,300	43,700	196,300	*24,500*	*3,500*	*8,400*	*(10,200)*	*26,200*	*15.4%*
16	Outside Dewatering	62,200	9,800	91,600	2,300	5,100	5,700	5,000	18,100	*(59,900)*	*(4,700)*	*(4,100)*	*(4,800)*	*(73,500)*	*-80.2%*
17	Septage Haulers	81,900		81,900						*(81,900)*	*0*	*0*	*0*	*(81,900)*	*-100.0%*
18	Total Billed Sales Revenue	19,690,300	20,744,500	81,923,800	20,857,600	20,985,000	19,736,200	19,459,800	81,038,600	*1,167,300*	*240,500*	*(1,008,300)*	*(1,284,700)*	*(885,200)*	*-1.1%*
19	Inside City Customers	5,797,600	5,882,500	23,445,100	5,084,000	5,536,900	5,849,100	5,727,400	22,197,400	*(713,600)*	*(345,600)*	*(33,400)*	*(155,100)*	*(1,247,700)*	*-5.3%*
20	Outside City Customers	13,892,700	14,862,000	58,478,700	15,773,600	15,448,100	13,887,100	13,732,400	58,841,200	*1,880,900*	*586,100*	*(974,900)*	*(1,129,600)*	*362,500*	*0.6%*
21	Total Billed Sales Revenue	19,690,300	20,744,500	81,923,800	20,857,600	20,985,000	19,736,200	19,459,800	81,038,600	*1,167,300*	*240,500*	*(1,008,300)*	*(1,284,700)*	*(885,200)*	*-1.1%*
22	Common Miscellaneous Revenue	183,400	220,700	845,500	132,600	152,900	197,800	214,200	697,500	*(50,800)*	*(67,800)*	*(22,900)*	*(6,500)*	*(148,000)*	*-17.5%*
23	**Total Revenue**	**19,873,700**	**20,965,200**	**82,769,300**	**20,990,200**	**21,137,900**	**19,934,000**	**19,674,000**	**81,736,100**	***1,116,500***	***172,700***	***(1,031,200)***	***(1,291,200)***	***(1,033,200)***	*-1.2%*
	Revenue Requirements														
24	Operation & Maintenance	17,499,900	16,798,500	67,895,400	15,927,000	16,197,300	13,783,600	14,609,400	60,517,300	*(1,572,900)*	*(601,200)*	*(3,014,900)*	*(2,189,100)*	*(7,378,100)*	
25	less: Administrative Charge Offset			0					0	*0*	*0*	*0*	*0*	*0*	
26	Net Operations & Maintenance	17,499,900	16,798,500	67,895,400	15,927,000	16,197,300	13,783,600	14,609,400	60,517,300	*(1,572,900)*	*(601,200)*	*(3,014,900)*	*(2,189,100)*	*(7,378,100)*	*-10.9%*
27	Pension Contribution	0	0	0	169,400	441,700	0	0	611,100	*169,400*	*441,700*	*0*	*0*	*611,100*	
28	OPEB Contribution	0	1,000,000	3,000,000	2,500,000	1,000,000	0	357,700	3,857,700	*2,500,000*	*0*	*(1,000,000)*	*(642,300)*	*857,700*	
29	OPEB Debt Service	0	0	0	0	0	599,700	601,700	1,201,400	*0*	*0*	*599,700*	*601,700*	*1,201,400*	
30	Total PEB Contributions	0	1,000,000	3,000,000	2,669,400	1,441,700	599,700	959,400	5,670,200	*2,669,400*	*441,700*	*(400,300)*	*(40,600)*	*2,670,200*	*89.0%*
31	PILOT	680,100	703,600	2,790,900	691,500	703,600	718,200	719,100	2,832,400	*11,400*	*0*	*14,600*	*15,500*	*41,500*	*1.5%*
32	Depreciation Expense	4,259,200	4,296,900	17,149,900	4,311,400	4,484,800	4,509,300	4,556,100	17,861,600	*52,200*	*187,900*	*212,400*	*259,200*	*711,700*	*4.1%*
33	less: Depreciation on Contributed Assets	(1,201,800)	(1,074,800)	(4,426,200)	(1,224,900)	(1,068,500)	(1,068,500)	(1,068,500)	(4,430,400)	*(23,100)*	*6,300*	*6,300*	*6,300*	*(4,200)*	*0.1%*
34	Net Local Share Depreciation Expense	3,057,400	3,222,100	12,723,700	3,086,500	3,416,300	3,440,800	3,487,600	13,431,200	*29,100*	*194,200*	*218,700*	*265,500*	*707,500*	*5.6%*
35	**Rev Req't Prior to Return on Rate Base**	**21,237,400**	**21,724,200**	**86,410,000**	**22,374,400**	**21,758,900**	**18,542,300**	**19,775,500**	**82,451,100**	***1,137,000***	***34,700***	***(3,181,900)***	***(1,948,700)***	***(3,958,900)***	*-4.6%*
36	***True-Up Revenue generating Return***	**(1,363,700)**	**(759,000)**	**(3,640,700)**	**(1,384,200)**	**(621,000)**	**1,391,700**	**(101,500)**	**(715,000)**	***(20,500)***	***138,000***	***2,150,700***	***657,500***	***2,925,700***	*-80.4%*
37	**Allocated to Out City Customers**	***2,153,700***	***1,878,800***	***7,790,100***	***1,631,000***	***1,973,900***	***1,859,300***	***1,814,800***	***7,279,000***	***(522,700)***	***95,100***	***(19,500)***	***(64,000)***	***(511,100)***	*-6.6%*
38	**Allocated to City Cutomers**	***(3,517,400)***	***(2,637,800)***	***(11,430,800)***	***(3,015,200)***	***(2,594,900)***	***(467,600)***	***(1,916,300)***	***(7,994,000)***	***502,200***	***42,900***	***2,170,200***	***721,500***	***3,436,800***	*-30.1%*

CITY OF KALAMAZOO, MICHIGAN

ORDINANCE NO. 1944

AN ORDINANCE TO AMEND SECTION 38-32 OF THE KALAMAZOO CITY CODE TO CHANGE THE RATES CHARGED FOR WATER SERVICE

THE CITY OF KALAMAZOO ORDAINS:

1. **Section 1.** Sec. 38-32 of the Kalamazoo Code is hereby amended to read as follows:

"Sec. 38-32. **Rate schedules established.**

The charge for water service furnished by the city shall be the sum of the service charge, dependent upon the size of the meter, plus the commodity charge, dependent upon the amount of water used, and the applicable customer class schedules as set forth below:

(1) **SCHEDULE A** (Quarterly)

Service Charge (per quarter)

Size of Meter (inches)	City	Outside City
5/8-3/4	$21.98	30.19
1	29.18	40.67
1-1/2	36.39	51.16
2	56.19	80.01

(2) **SCHEDULE B** (Monthly)

Service Charge (per month)

Size of Meter (inches)	City	Outside City
5/8-3/4	9.97	12.70
1	12.37	16.20
1-1/2	14.77	19.70
2	21.37	29.31
3	69.99	100.12
4	88.01	126.34
6	130.03	187.52
8	178.05	257.45

(3) **COMMODITY CHARGES, RATES SCHEDULES A & B**

Rate Per Cubic Meter (on all water used)

Customer Class	City	Outside City
Single Family	0.292	0.598
Multi Family	0.264	0.401
Commercial	0.294	0.449

(4) **FIRE PROTECTION, RATE SCHEDULE C (Monthly)**

Demand Charge (monthly)

Size of Detector Check (inches)	City	Outside City
4	23.32	36.64
6	29.08	44.73
8	40.59	60.65
10	86.45	121.74

Demand Charge (quarterly)

Size of Detector Check (inches)	City	Outside City
4	33.60	59.53
6	38.98	83.79
8	53.77	131.55
10	162.68	314.79

Commodity Charge (per month) Per Cubic Meter

	City	Outside City
First 15 m^3/mo.	0.288	0.442
Over 15 m^3/mo.	0.865	1.325

Fire hydrants: $43.20 per year on each private fire hydrant maintained in service.

(5) **LAWN SPRINKLING & SEASONAL USE, SCHEDULE D**

Monthly and quarterly service charges under this schedule are based upon meter size and are the same as in Schedules A & B. Minimum annual service charges are equal to four times the quarterly service charge.

Commodity Charge. Rate per cubic meter on all water used.

City	$0.455 per cubic meter
Outside City	$0.932 per cubic meter

The rates established by this ordinance amendment shall go into effect for water bills rendered on or after January 01, 2017.

REPEALER

All former ordinances or parts of ordinances conflicting or inconsistent with the provisions of this ordinance are hereby repealed.

SEVERABILITY

If any section, subsection, sentence, clause, phrase or portion of this ordinance is for any reason held invalid or unconstitutional by any Court of competent jurisdiction, said portion shall be deemed a separate, distinct and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

CERTIFICATE

The foregoing is a true and complete copy of an ordinance adopted by the City Commission of the City of Kalamazoo at a regular meeting held on December 19, 2016. Public notice was given and the meeting was conducted in full compliance with the Open Meetings Act, (PA 267,1976). Minutes of the meeting will be available as required by the Act, and the ordinance was duly recorded, posted, and authenticated by the Mayor and City Clerk as required by the Charter of said City.

Bobby J. Hopewell, Mayor

Scott A. Borling, City Clerk

A regular meeting of the Kalamazoo City Commission was held on Tuesday, January 17, 2017 at 7:03 p.m. in the City Commission Chambers at City Hall.

Roll Call

COMMISSIONERS PRESENT: Mayor Bobby J. Hopewell
Vice Mayor Don Cooney
David Anderson
Erin Knott
Matt Milcarek
Shannon Sykes
Jack Urban

COMMISSIONERS ABSENT: None

Also present were City Manager James Ritsema, City Attorney Clyde Robinson, and Deputy City Clerk Shelby Moss.

Invocation

The invocation, given by Pastor Strick Strickland from Second Baptist Church, was followed by the Pledge of Allegiance.

Presentation of the Social Justice Youth Awards

Mayor Hopewell introduced the presenters of the 2017 Social Justice Youth Awards.

Judy Woolsey, Assistant to the CEO of Schupan and Sons, presented Schupan & Sons Youth Social Justice Award to Daba Schau.

John Pinkster, Director of South Operation for Life EMS, presented the Life EMS Social Justice Youth Award to Isaac Moss.

Ronald Foor, Community President of Fifth Third Bank, presented the Fifth Third Bank Social Justice Youth Award to Taylor Brown.

Dr. Lewis Walker of the Lewis Walker Institute for the Study of Race and Ethnic Relations, presented the Dr. Lewis Walker Social Justice Youth Award to Lauren Hill.

A transcript of the remarks made by Mayor Hopewell and the presenters was filed with the papers for this meeting.

Adoption of the Agenda

By unanimous consent the City Commission adopted its meeting agenda with the following change:

A citizen requested Item F5 (reappointments to the Board of Review for Assessments and the Parks and Recreation Advisory Board) be moved from the Consent Agenda to the Regular Agenda.

Communications

City Manager Ritsema announced there would be a City Commission work session on Monday, January 23, 2017 at 6:00 p.m. in the Community Room at City Hall. City Manager Ritsema stated the discussion topic would be the Foundation for Excellence.

Public Hearing re: Rezoning of 45 Parcels in the Riverfront Redevelopment Area

At 7:20 p.m. Mayor Hopewell opened a public hearing to receive comments on an ORDINANCE to 1) rezone 45 parcels from Zone M-1 (Manufacturing, Limited District), Zone M-2 (Manufacturing, General

District), and Zone CCBD (Commercial, Central Business District) to Zone CMU (Commercial, Mixed-Use District); 2) amend the Riverfront Overlay District to add Subarea 9; and 3) add the new Subarea 9 of the Riverfront Overlay District to the parcels.

Public Hearing re: Rezoning of 45 parcels in the Riverfront Redevelopment Area (cont'd)

At 7:21 p.m. Mayor Hopewell closed the public hearing.

Commissioner Anderson thanked City staff for their hard work.

Commissioner Urban expressed support for the ordinance and stated the site of the proposed rezoning was very important to the downtown area.

Commissioner Urban, seconded by Commissioner Milcarek, moved to adopt an **ORDINANCE** to 1) rezone 45 parcels from Zone M-1 (Manufacturing, Limited District), Zone M-2 (Manufacturing, General District), and Zone CCBD (Commercial, Central Business District) to Zone CMU (Commercial, Mixed-Use District); 2) amend the Riverfront Overlay District to add Subarea 9; and 3) add the new Subarea 9 of the Riverfront Overlay District to the parcels.

Ordinance 1945 Rezoning 45 parcels in the Riverfront Redevelopment Area

With a roll call vote this motion passed unanimously:

AYES: Commissioners Anderson, Knott, Milcarek, Sykes, Urban, Vice Mayor Cooney, Mayor Hopewell

NAYS: None

Consent Agenda items were presented as follows with a recommendation to approve the items with authorization for the City Manager to sign on behalf of the city:

Consent Agenda

- approval of a two-year contract extension with Rathco Safety Supply, Inc. for rental of temporary traffic control devices in the amount of $300,000.

- approval of a contract for engineering design services with Jones & Henry Engineers, LTD for the design of solids handling and dewatering improvements at the City of Kalamazoo Water Reclamation Plant in the amount of $350,000.00.

- adoption of a **RESOLUTION** granting a Payment in Lieu of Taxes for the LIFT Foundation, doing business as New Horizon Village (Parcel No. 06-11-160-001, pursuant to Section 35-4 of the Kalamazoo City Code.

Resolution 17-01

- approval of the reappointments of Mayor Bobby J. Hopewell and City Manager James Ritsema to the Kalamazoo County Consolidated Dispatch Authority Governing Board of Directors, with Public Safety Chief Jeff Hadley and Deputy City Manager Jeff Chamberlain as alternates; and the reappointment of Deputy Public Safety Chief Karianne Thomas to the Kalamazoo County Consolidated Dispatch Technical Advisory Committee, with Dispatch Center Group Leader, John Hurst as an alternate. These reappointments will expire on December 31, 2018.

Consent Agenda (cont'd)

- approval of the minutes from the City Commission meetings on December 12 and December 19, 2016.

- approval of a recommendation to hold until February 6, 2017 approval of the sale of 1213 John Street to Alfredo and Linda Zuniga for $120.00.

Commissioner Knott, seconded by Vice Mayor Cooney, moved to approve the consent agenda requests and authorize the City Manager to sign all documents on behalf of the City.

With a roll call vote this motion passed.

AYES: Commissioners Anderson*, Knott, Milcarek*, Sykes, Urban, Vice Mayor Cooney, Mayor Hopewell

NAYS: None

*At the time of the vote, Commissioners Anderson and Milcarek announced they were abstaining on Item F3 (Payment in Lieu of Taxes for the LIFT Foundation) due to conflicts of interest.

Regular Agenda

Regular Agenda items were considered next.

When an opportunity was given for citizens to comment on the reappointments to the Board of Review for Assessments and the Parks and Recreation Advisory Board (PRAB), the following people addressed the City Commission:

Zadie Jackson, City resident, expressed support for the reappointment of Meka Phillips to PRAB.

Meka Phillips, City resident and Chair of PRAB, expressed her desire to continue serving the City of Kalamazoo on this board.

Vice Mayor Cooney, seconded by Commissioner Milcarek, moved to approve the following reappointments to boards and commissions:

- the reappointment of Donna Keller to the Board of Review for Assessments for a term expiring on January 31, 2020; and

- and the reappointment of Meka Phillips to the Parks and Recreation Advisory Board for a term expiring on January 1, 2020. This reappointment includes the waiver of City Commission rule 12e regarding term limits.

With a roll call vote this motion passed unanimously.

AYES: Commissioners Anderson, Knott, Milcarek, Sykes, Urban, Vice Mayor Cooney, Mayor Hopewell

NAYS: None

An opportunity was given for citizens to comment on the adoption of the FY2017 Budget, but no comments were offered.

Adoption of the FY2017 Budget

City Manager Ritsema thanked City staff for their hard work and highlighted the importance of the millage reduction provided by the Foundation for Excellence. City Manager Ritsema remarked on the sixty-two positions being added to the budget and the importance of these positions to continue the work of the Foundation for Excellence.

Commissioner Knott, seconded by Commissioner Urban, moved to adopt the budget resolution, component unit budgets, and fee schedules as follows:

- adoption of the Annual Appropriation **RESOLUTION** for the year 2017, which sets forth the number of mills to be levied, approves an interim appropriation for the year 2018, and establishes policies for the administration of the budget. — Resolution 17-02
- approval of the proposed FY2017 Downtown Development Authority (DDA) budget, as submitted by the DDA Board.
- approval of the proposed FY2017 Brownfield Redevelopment Authority (BRA) budget as submitted by the BRA Board.
- approval of the proposed FY2017 Economic Development Corporation (EDC) budget as submitted by the EDC Board.
- adoption of a **RESOLUTION** setting the 2017 fees for various permits hearings, etc. within the Community Planning & Development Department. — Resolution 17-03
- adoption of a **RESOLUTION** setting the 2017 fees and charges for the Parks and Recreation Department. — Resolution 17-04
- approval of the 2017 proposed fee schedule for the Kalamazoo Municipal Golf Association.

Prior to a vote on the motion, Commissioner Anderson commented on the extensive budget process and thanked City Manager Ristsema and staff for their hard work.

Vice Mayor Cooney commeneded City Manager Ristsema and staff for striving to provide a high quality of life for residents.

Mayor Hopewell remarked on the importance of the budget process and the integration of the budget to the priorities of the Commission.

With a roll call vote this motion passed unanimously:

AYES: Commissioners Anderson, Knott, Milcarek, Sykes, Urban, Vice Mayor Cooney, Mayor Hopewell

NAYS: None

City Manager's Report

City Manager Ritsema provided the following reports and updates:

- Departmental Reports and Project Updates
- Inside the City, January 2017 edition
- December 2016 Purchases

James Baker, Public Services Director, addressed the Commission on the timeline for the 2017 Vine Street Project between Davis and Oak Street. Director Baker's notes have been filed with the papers for this meeting.

In response to questions from Commissioner Sykes, Director Baker stated the public meeting held on November 3, 2016 was promoted though the Vine Neighborhood Association, but he was unsure of the exact number of attendees. Director Baker stated meeting participants' concerns were discussed at the meeting, and he would follow up with Commissioner Sykes on the exact number of meeting participants.

In response to questions from Vice Mayor Cooney, Director Baker stated his office received one phone call regarding the "door hanger" tree removal notices, and one resident inquired at the neighborhood meeting about the species of tree that would be replanted.

City Manager Ritsema previewed the upcoming January 23rd City Commission Work Session regarding the Foundation for Excellence. A copy of this presentation was filed with the papers for this meeting.

Citizen Comments

When an opportunity was given for general citizen comments, the following people addressed the City Commission:

Nehemiah Scudder, City resident, remarked on the events surrounding the Martin Luther King Jr. holiday, and he commented on the need to be inclusive when marking important historical events.

Paul VandenBosch, non-resident, expressed support for the shut-down of the Palisades Nuclear Power Plant and requested the Commission support Consumers Energy in their request to the Michigan Public Service Commission to shut down the plant by 2018.

Zach Lassiter, City resident, expressed concerns regarding the number of non-profit properties on the tax roll.

Gunnars Kaire, City resident, expressed concerns regarding the removal of trees from the Vine Neighborhood and the proposed widening of Vine Street. Mr. Kaire's notes were filed with the papers for this meeting.

James Kavanaugh, City resident and owner of Cosmo's Cucina and O'Duffy's Pub, expressed concerns regarding the planning meetings and resident notices regarding the Vine Street widening project and the lack of parking access from Vine Street for a significant portion of the construction project.

Citizen Comments (cont'd)

Judd Easton, City resident, expressed opposition to the Vine Street widening project and suggested the funding would be better used for improvements on other streets. Mr. Easton expressed frustration with the lack of notices to residents before trees were removed.

City Commissioner Comments

Next, an opportunity was given for miscellaneous comments and concerns of City Commissioners.

Commissioner Milcarek expressed concerns regarding the Vine Street widening project and urged City staff to understand the personal nature of these projects to residents.

Commissioner Urban reported he had met with City staff regarding the Vine Street widening project, and he discussed lessons staff had learned during the course of the project. Commissioner Urban remarked on the challenges created by having a large gap between the planning and execution stages of a project. Commissioner Urban stated City staff would be reviewing their notification policies for all projects, and he advised staff to be understanding and compassionate towards residents' concerns.

Commissioner Knott expressed concerns regarding the removal of trees due to the Vine Street widening project, and she related residents' concerns regarding the lack of notices about the project.

Commissioner Sykes expressed concerns regarding the community engagement portion of the Vine Street widening project. Commissioner Sykes asked City departments to collaborate on noticing efforts and share their knowledge of effective and ineffective noticing techniques. Commissioner Sykes requested City staff spend additional face to face time with City residents concerning the Vine Street widening project.

Commissioner Anderson requested a presentation that would cover the following topics: the classification of streets in the City; how funding from various sources was divided up among the various types of streets; and a listing of projects proposed for funding through the Michigan Department of Transportation and the Kalamazoo Area of Transportation Study.

Vice Mayor Cooney remarked on the lack of community support for the Vine Street widening project and the removal of trees from the neighborhood. Vice Mayor Cooney inquired if the Vine Street widening project could be modified to address residents' concerns.

Mayor Hopewell noted there was a general lack of understanding regarding the process for prioritizing and funding infrastructure projects. Referring to his many years of service on City boards, Mayor Hopewell observed there would always be people who did not know about a project or who did not receive a notice. Mayor Hopewell requested that staff take the following actions to improve the management of infrastructure projects: 1) develop specific steps community engagement; 2) have an alternate community engagement plan for when the primary plan did not facilitate enough participation; 3) tailor noticing techniques to the housing demographic on the street being affected by a project; 4) have a plan in

City Commissioner Comments (cont'd)

place to support businesses during a project; 5) establish an after action review process; and 6) continue efforts in departmental collaboration. Mayor Hopewell stated there was lots of work to accomplish in 2017, and he urged City staff to help everyone better understand current and future projects.

Adjournment

The meeting adjourned at 8:49 p.m.

Respectfully submitted,

Shelby Moss
Deputy City Clerk

For City Commission approval on March 6, 2017

Approved by: _____
Bobby J. Hopewell, Mayor
Dated: March 6, 2017