



# City of Garden Ridge

*"A way of life, not just a place to live"*

## AGENDA WATER COMMISSION REGULAR MEETING TUESDAY, NOVEMBER 15, 2022, 6:00 PM

The Water Commission will meet in a regular session on Tuesday, November 15, 2022 at 6:00 PM in the City Council Chambers, 9400 Municipal Parkway, Garden Ridge, Texas. This is an open meeting, open to the public, subject to the Open Meetings Law of the State of Texas, and as required by law, notice is hereby posted providing time, place, date, and agenda thereof. The meeting facility is wheelchair accessible and accessible parking spaces are provided. Requests for accommodations or interpretative services must be made to the City Secretary 48 hours prior to this meeting.

### 1. Call to Order

### 2. Roll Call

### 3. Pledge of Allegiance

### 4. Citizen Comment Period - limited to 30 minutes total

**Rules for Citizens' Participation:** The Commission welcomes citizen participation and comments at all Commission Meetings. The Commission offers citizens the opportunity to address them by signing up to speak prior to the meeting. If you speak, you must follow these guidelines:

#### a) Respect and courtesy:

1. Direct your comments to the entire Commission, not to an individual member, nor to the audience.
2. Show the Commission the same respect that you would like to be shown.
3. End your speaking at the time allotted below.

#### b) Speaking:

1. First citizen comment period
  - 1.1. You are required to sign up to speak and you are limited to one 3-minute period.
2. Second citizen comment period
  - 2.1. You are not required to sign up and you are limited to one 2-minute period.
3. State your name and address before your comments begin.
4. You are only allowed to speak once per topic, unless also speaking during a posted Public Hearing.

*NOTE: The Texas Open Meetings Act permits a member of the public or a member of the governmental body to raise a subject that has not been included in the notice for the meeting. However, any discussion of the subject must be limited to a proposal to place the subject on the agenda for a future meeting and any response to a question posed to the City Council is limited to either a statement of specific factual information or a recitation of existing policy. TEX. GOV'T CODE § 551.042.*

### 5. Business Items

The following items are for discussion, consideration, and/or action.

#### a. Approvals

1. Approval of Minutes for October 18, 2022, Water Commission Regular Meeting.

b. Discussions/Reports/Updates

1. Utility Department Monthly Activity Report.

- i. Water Pumping/usage from City wells, Water system infrastructure maintenance, repairs and/or projects, and Water and/or Drought Management (current Watering Stage).

2. Items applicable to the Water Commission discussed at the November City Council Regular Meeting.

c. Recommendations

1. Request for water loss adjustment for 20810 Glen Cove for the billing period of June 23, 2022 – July 22, 2022.

- i. Review and make recommendation regarding the request.

2. Water Rate Structure.

- i. Review and make possible recommendations on Water Rate Structure.

3. Water Pressure Regulations.

- i. Review and make possible recommendations on Water Pressure Regulations.

4. Water Commission activities and projects.

- i. Update Commissioner's activities and projects list and receive update from Commissioners.

- ii. Discuss and make possible recommendations on future meetings or direction regarding Water Commission activities and projects.

d. Future Agenda Items

1. Commissioners input on agenda items.

2. Announce the date, time, and location for next meeting (December 20, 2022, at 6:00 p.m. at City Hall).

**6. Citizen Comment Period**

**7. Adjournment**

**AGENDA NOTICES:**

**Decorum Required:** Any disruptive behavior, including shouting or derogatory statements or comments may be ruled out of order by the Presiding Officer. Continuation of this type of behavior could result in a request by the Presiding Officer that the individual leave the meeting, and if refused, an order of removal.

**Action by Commission Authorized:** The Commission may vote or act upon any item within this Agenda.

**Attendance By Other Elected or Appointed Officials:** It is anticipated that members of the City Council, other city board, commissions and/or committees may attend the meeting in numbers that may constitute a quorum of the other city boards, commissions and/or committees. Notice is hereby given that the meeting, to the extent required by law, is also noticed as a meeting of the City Council, other boards, commissions and/or committees of the City, whose members may be in attendance. The members of the boards, commissions and/or committees may participate in discussions on the same items listed on the agenda, which occur at the meeting, but no action will be taken by such in attendance unless such item and action is specifically provided for on an agenda for that board, commission or committee subject to the Texas Open Meetings Act.

This is to certify that I, Michelle Hinojosa, posted this Agenda at 3:15 p.m. on November 8, 2022, on the bulletin board located at the entrance to the Garden Ridge City Hall, 9400 Municipal Parkway, Garden Ridge,

Texas.

  
Michelle Hinojosa  
Utility Clerk



# City of Garden Ridge

*"A way of life, not just a place to live"*

## MINUTES WATER COMMISSION REGULAR MEETING TUESDAY, OCTOBER 18, 2022, 6:00 P.M.

### **Commissioners Present:**

Chair James Mueller  
Vice-Chair Keven Harshbarger  
Commissioner Joseph Haltaman  
Commissioner Dr. Richard Carmichael  
Commissioner Don Stone  
Mayor Robb Erickson, Ex-Officio

**Commissioners Absent:** Vacant Position

### **City Staff, City Councilmembers, and Other Commissioners Present:**

Nancy Cain, City Administrator  
Marisa Spencer, City Secretary  
Michelle Hinojosa, Utility Clerk  
Steven Steinmetz, Public Works Director  
Jesse Valdez, City Councilmember

### **1. Call to Order**

With a quorum of the Water Commissioners present, Chair Mueller called the regular meeting of the Garden Ridge Water Commission to order at 6:01 p.m. on Tuesday, October 18, 2022, in the City Council Chambers of the Garden Ridge City Hall, 9400 Municipal Parkway, Garden Ridge, Texas 78266.

**2. Roll Call:** See above.

**3. Pledge of Allegiance:** Chair Mueller led the Pledge of Allegiance.

**4. Citizen Comment Period:** None wished to speak.

### **5. Business Items**

The following items are for discussion, consideration, and/or action.

#### **a) Approvals**

##### **1. Minutes for September 20, 2022, Water Commission Regular Meeting.**

**Motion:** A motion was made by Commissioner Stone, seconded by Commissioner Dr. Carmichael, to approve the minutes for the September 20, 2022, Water Commission Regular Meeting. The Commission voted four (4) for and none (0) opposed. The motion carried unanimously.

#### **b) Discussions/Reports/Updates**

##### **1. Utility Department Monthly Activity Report.**

##### **i. Water Pumping/usage from City wells, Water system infrastructure maintenance, repairs and/or projects, and Water and/or Drought Management (current Watering Stage).**

Steven Steinmetz, Public Works Director, reviewed the monthly activity report and answered questions from the Commission.

##### **2. Items applicable to the Water Commission discussed at the October City Council Meeting.**

Chair Mueller updated the Commission on the items applicable to the Commission discussed at the October City Council Meeting.

#### **c) Recommendations**

##### **1. Request for water loss adjustment for 7933 Garden North for the billing period of March 23, 2022 – April 23, 2022.**

##### **i. Review and make recommendations regarding the request.**

The Commission reviewed the water loss adjustment for 7933 Garden North submitted by John Steers, who was not in attendance. The Commission discussed the water loss adjustment from the billing period of March 23, 2022 – April 23, 2022.

**Motion:** A motion was made by Vice-Chair Harshbarger, seconded by Commissioner Stone, to recommend to City Council approval of a water loss adjustment credit of \$589.66 for 7933 Garden North for the billing period of March 23, 2022 – April 23, 2022. The Commission voted four (4) for and none (0) opposed. The motion carried unanimously.

**2. Water Rate Structure.**

**i. Review and make possible recommendations regarding Water Rate Structure.**

Vice-Chair Harshbarger updated the Commission on the Water Rate Structure process.

**3. Request for a variance to Ordinance No. 61, Drought Demand Reduction Measures for 22168 Via Posada Dr. to allow an exception to Stage 2 watering restrictions for the watering of newly installed sod.**

**i. Discuss and make possible recommendations for variance to Ordinance No. 61 for 22168 Via Posada Dr.**

Nancy Cain, City Administrator, updated the Commission on the variance request. Nothing further to consider at this time.

**4. Water Commission activities and projects.**

**i. Update of Commissioner's activities and projects list and receive update from Commissioners.**

The Commissioners updated the Commission on their activities and projects.

**ii. Discuss and make possible recommendations on future meetings or direction regarding Water Commission activities and projects.**

The Commission had none at this time.

**5. Ordinance No. 210-042022 An Ordinance of the City Council of the City of Garden Ridge, Texas, adopting board and commission policies and procedures; providing a cumulative and savings clause; providing for severability; and declaring an effective date.**

**i. Receive recommendations and consideration for appointment of Water Commission Chair and Vice-Chair for a one-year term effective October 2022.**

**Motion:** A motion was made by Commissioner Stone, seconded by Commissioner Haltaman, to appoint Commissioner Mueller as Chair and Commissioner Harshbarger as Vice-Chair for a one-year term effective October 2022. The Commission voted four (4) for and none (0) opposed. The motion carried unanimously.

**d) Future Agenda Items**

**1. Commissioners input on agenda items.**

Vice-Chair Harshbarger requested to review the Water Rate Structure.

Commissioner Haltaman requested to discuss water pressure regulations.

**2. Announce the date, time, and location for next meeting (Tuesday, November 15, 2022 at 6:00 p.m. at City Hall).**

Chair Mueller announced the next Water Commission Regular Meeting will be held on Tuesday, November 15, 2022, at 6:00 p.m. at City Hall in the City Council Chambers.

**6. Citizen Comment Period:** None wished to speak.

**7. Adjournment**

**Motion:** A motion was made by Vice-Chair Harshbarger, seconded by Commissioner Dr. Carmichael, to adjourn. The Commission voted four (4) for and none (0) opposed. The motion carried unanimously. There being no further business, the Tuesday, October 18, 2022, Water Commission Regular Meeting was adjourned at 7:16 p.m. by Chair Mueller.

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James Mueller  
Chair

ATTEST:

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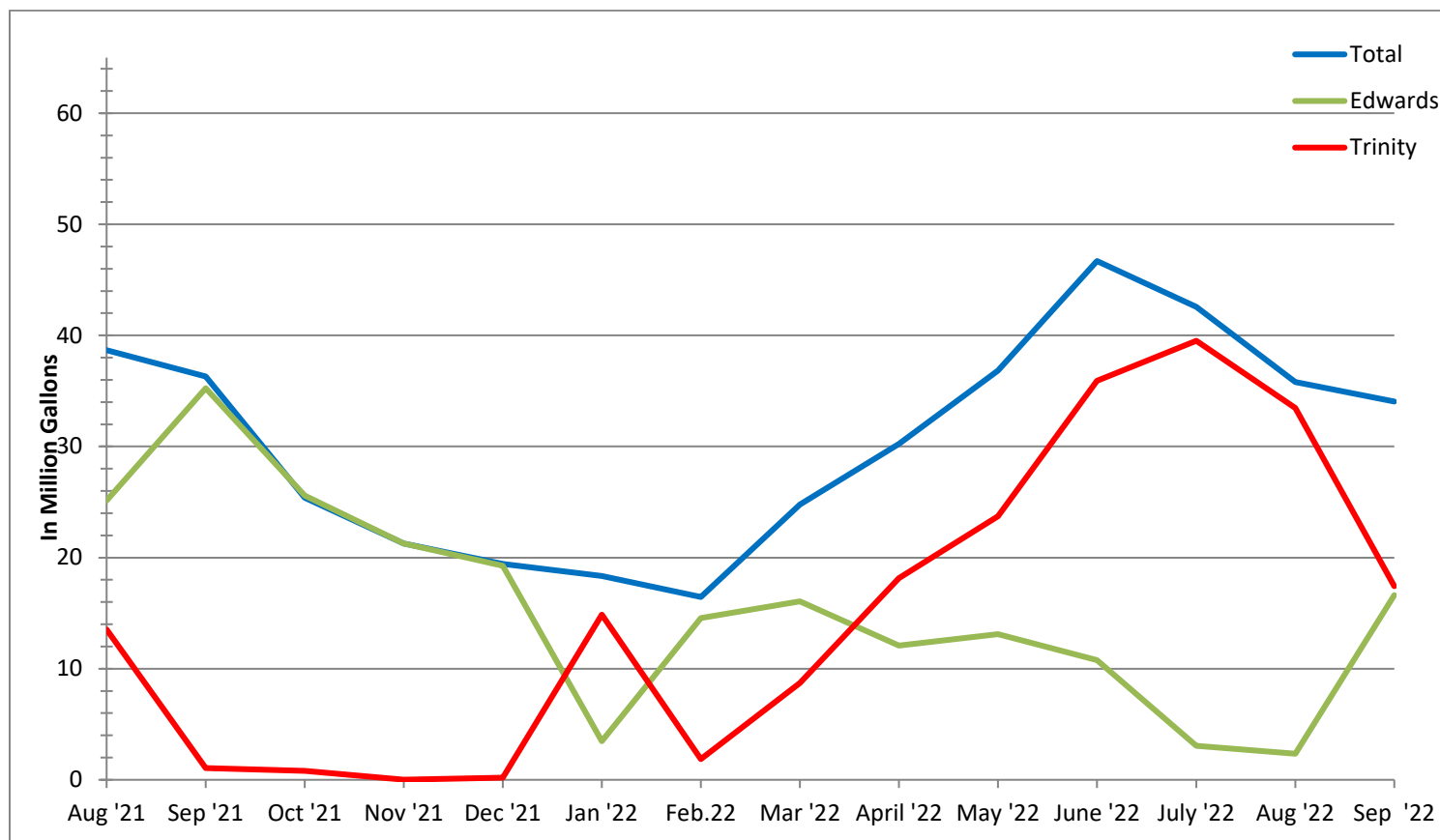
Michelle Hinojosa  
Utility Clerk



## Utilities Department Report

As of October 31, 2022

### City of Garden Ridge Aquifer Usage

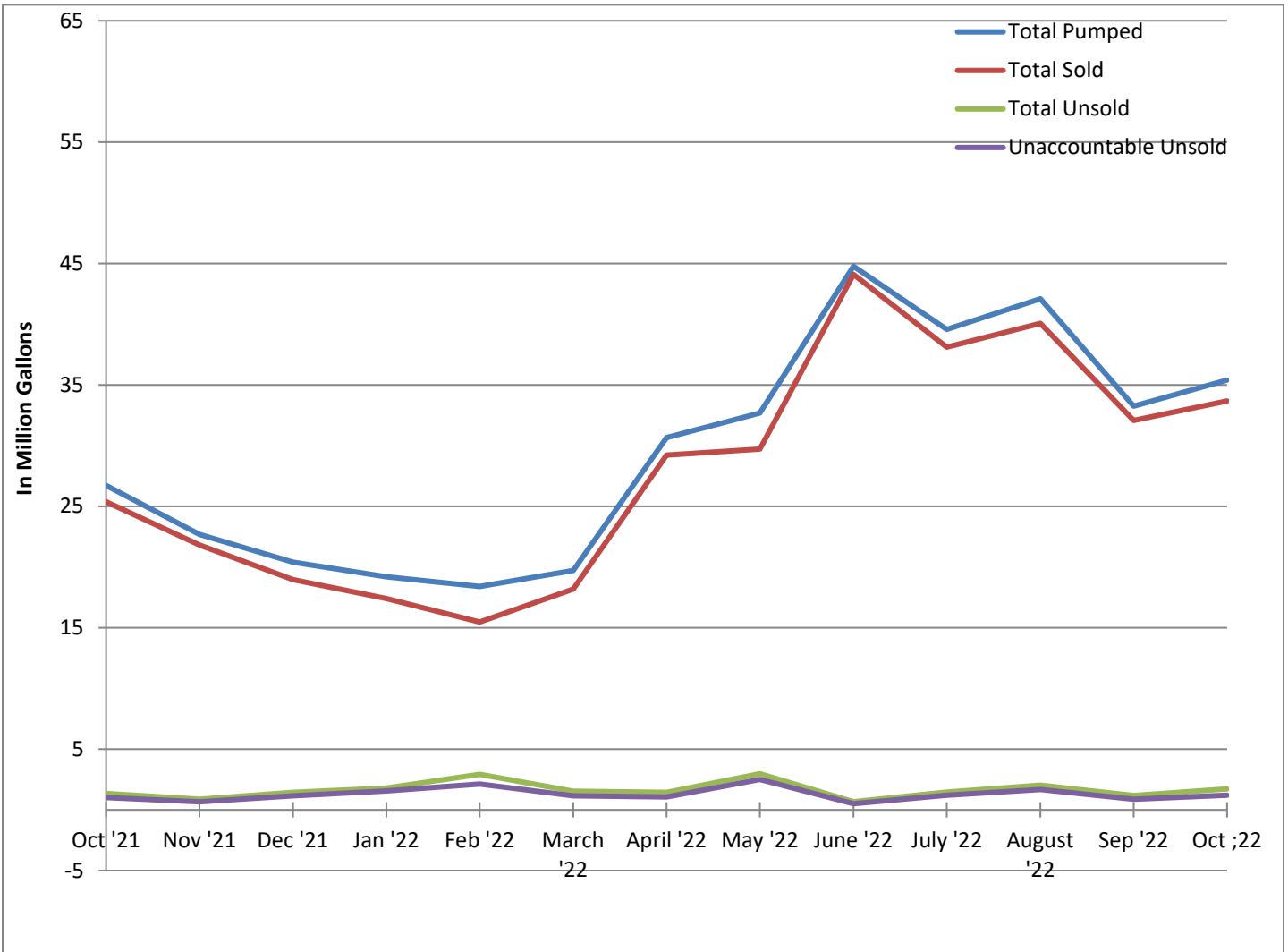


|                           | Month: | Year:  | Available: | Stage: |
|---------------------------|--------|--------|------------|--------|
| Edwards Well Usage AC/FT: | 51     | 282.47 | 254.97     | 3      |
| Trinity Well Usage AC/FT: | 53.47  | 594.3  | N/A        | 0      |

### Water Quality

| Backteriological Samples | Due : | Missed: | Passed: | Failed: |
|--------------------------|-------|---------|---------|---------|
| Distribution Samples :   | 6     | 0       | 6       | 0       |
| Speacial Samples :       | 1     | 0       | 1       | 0       |
| Chlorine Residual Test:  | 30    | 0       | 30      | 0       |

## 2021 – 2022 Pumping Report



|                       | Total Pumped<br>(Thousands) | Total Sold<br>(Thousands) | Total Unsold<br>(Thousands) | Unaccountable<br>Unsold<br>(Thousands) | Unaccountable<br>Unsold % |
|-----------------------|-----------------------------|---------------------------|-----------------------------|----------------------------------------|---------------------------|
| <b>Oct '21</b>        | 26,719                      | 25,368                    | 1,351                       | 1,025                                  | 3.8%                      |
| <b>Nov '21</b>        | 22,702                      | 21,817                    | 8,858                       | 668                                    | 2.9%                      |
| <b>Dec '21</b>        | 20,393                      | 18,955                    | 1,438                       | 1,149                                  | 5.6%                      |
| <b>Jan '22</b>        | 19,203                      | 17,414                    | 1,789                       | 1,553                                  | 8.1%                      |
| <b>Feb '22</b>        | 18,402                      | 15,471                    | 2,931                       | 2,131                                  | 11.6%                     |
| <b>Mar '22</b>        | 19,708                      | 18,182                    | 1,526                       | 1,160                                  | 5.9%                      |
| <b>April '22</b>      | 30,656                      | 29,217                    | 1,439                       | 1,073                                  | 3.5%                      |
| <b>May '22</b>        | 32,689                      | 29,713                    | 2,976                       | 2,505                                  | 7.7%                      |
| <b>June '22</b>       | 44,778                      | 44,108                    | 6,703                       | 506                                    | 1.1%                      |
| <b>July '22</b>       | 39,584                      | 38,121                    | 1,463                       | 1,196                                  | 3.0%                      |
| <b>Aug '22</b>        | 42,087                      | 40,066                    | 2,021                       | 1,687                                  | 4.0%                      |
| <b>Sep '22</b>        | 33,266                      | 32,087                    | 1,179                       | 879                                    | 2.6%                      |
| <b>Oct '22</b>        | 35,400                      | 33,684                    | 1,716                       | 1,204                                  | 3.4%                      |
| <b>Yearly Average</b> | <b>30,044</b>               | <b>28,016</b>             | <b>2,722</b>                | <b>1,287</b>                           | <b>4.9%</b>               |

### Utilities Department Monthly Activities:

|                      |      |                            |     |
|----------------------|------|----------------------------|-----|
| New Installed Meters | 1    | Work Orders                | 483 |
| Meter Replacements   | 0    | Locates                    | 42  |
| City Owned Leaks     | 1    | Irrigations Permits Issued | 0   |
| Meters Read          | 1695 | Total Rebates              | 0   |
| Meter Tests          | 0    |                            |     |

### AMI Information

|                              | Sep.  | Oct.  |   |     | Sep.            | Oct |     |     |
|------------------------------|-------|-------|---|-----|-----------------|-----|-----|-----|
| Total AMI Notifications      | 1,719 | 1,534 | ↓ | 185 | Abnormal Usage  | 154 | 159 | ↑ 5 |
| Automatic Draft Customers    | 687   | 689   | ↑ | 2   | Continuous Flow | 88  | 86  | ↓ 2 |
| AMI Customer Portal Profiles | 717   | 730   | ↑ | 13  | Leak Info Code  | 565 | 561 | ↓ 4 |
| E-Billing Customers          | 384   | 389   | ↑ | 5   | Usage Trend     | 150 | 169 | ↑ 4 |

**Stage 2 restriction alerts**  
**October alerts 559**  
**Down 203 from September**

\*Active Leak Info Code Alerts – The firmware on the meter is measuring the flow rate through the meter and will only be triggered if water is flowing continuously above the configurable parameter of the meter's max-flow rate threshold for 24 hours. The city has set a standard max-flow rate of .1% and is notified of any triggered alert.

### Leak Adjustments

|              |  |                      |   |          |   |                 |        |        |   |                          |   |
|--------------|--|----------------------|---|----------|---|-----------------|--------|--------|---|--------------------------|---|
| New Requests |  | Waiting for Customer | 5 | Approved | 3 | Amount Approved | 328.67 | Denied | 0 | Sent to Water Commission | 1 |
|--------------|--|----------------------|---|----------|---|-----------------|--------|--------|---|--------------------------|---|

# City of Garden Ridge 2022 Water Rate Study

Prepared by Staff and Water Rate Sub-committee

Presented to Water Commission on

Nov 15, 2022

# Overview

- Background
- Objective
- Current Rates, Benchmarks, and Operating Results
- Update Model Data
  - Water Consumption
  - Water Fund Expenditures
  - Water Fund Balance
- Proposed Water Rates
  - Options
  - Results – Model Predictions Feasible Cases
  - Staff and Sub-Committee Recommendations
- Discussion / Recommendation

# Background

- Water & Wastewater Rates Analysis Model
  - Provided by University of North Carolina, Chapel Hill Environmental Finance Center
- November 2019
  - Council approved 14% water rate increase for CY2020, annual rate study
- January 2021 – Council approved new rates for CY2021
  - RI base rate increased 10%, 3% T1/T2 increase
  - For T3 and above, additional 2% marginal rate increase
  - Included AMI project, projected FY2021 fund balance \$1.201M; FY2021 Amended Budget Fund Balance \$1.235M
- December 2021 – Council approved new rates for CY2022
  - \$2.50 increase to  $\frac{3}{4}$ " base rate, adjusted volume tiers starting at 1K – 10K gallons

# Overview

- Background
- **Objective**
- Current Rates, Benchmarks, and Operating Results
- Update Model Data
  - Water Consumption
  - Water Fund Expenditures
  - Water Fund Balance
- Proposed Water Rates
  - Options - Base Rates and Volumetric Rate Structure
  - Results – Model Predictions Feasible Cases
  - Staff and Sub-Committee Recommendations
- Discussion / Recommendation

# Water Rate Study Objectives

- Define rate or pricing goals and objectives-first step
- Typical objectives may include:
  - Revenue sufficiency
  - Revenue stability
  - Simplicity – ease of customer understanding
  - Ease of administration
  - Affordability
  - Resource efficiency – price signals, conservation
  - Legal
  - Consistency with cost-of-service principles
  - Equity/Fairness

Source: Developing Rates for Small Systems, M54. AWWA, 2017

# Water Rate Study Objectives 2021

- Full cost recovery
  - Operations & Maintenance
  - Debt service
  - Replenish Reserves – 12 months M&O, 1 year debt service
- Revenue stability
- Cost of service principles – “no free water”
- Encouraging water conservation
- Follows a logical process and pattern
- Recommend no change in objectives for 2022 study

# Overview

- Background
- Objective
- **Current Rates, Benchmarks, and Operating Results**
- Update Model Data
  - Water Consumption
  - Water Fund Expenditures
  - Water Fund Balance
- Proposed Water Rates
  - Options
  - Results – Model Predictions Feasible Cases
  - Staff and Sub-Committee Recommendations
- Discussion / Recommendation

# Current Rate Structure

| Base Rates |                    |                     |
|------------|--------------------|---------------------|
| Meter Size | Inside City Limits | Outside City Limits |
| 3/4"       | \$ 30.00           | \$ 46.25            |
| 1"         | \$ 33.00           | \$ 49.25            |
| 1-1/2"     | \$ 52.50           | \$ 68.75            |
| 2"         | \$ 60.00           | \$ 76.25            |

| Volumetric Tier Rate Structure (\$ / 1000 Gallons) |        |                    |                     |
|----------------------------------------------------|--------|--------------------|---------------------|
| Start                                              | End    | Inside City Limits | Outside City Limits |
| 1,000                                              | 10,000 | \$ 2.82            | \$ 4.55             |
| 10,001                                             | 20,000 | \$ 4.75            | \$ 6.89             |
| 20,001                                             | 30,000 | \$ 6.71            | \$ 9.27             |
| 30,001                                             | 40,000 | \$ 8.72            | \$ 12.07            |
| 40,001                                             | 50,000 | \$ 10.76           | \$ 14.82            |
| 50,001                                             | 60,000 | \$ 12.85           | \$ 17.54            |
| 60,001                                             | 70,000 | \$ 14.97           | \$ 19.37            |
| 70,001                                             | 80,000 | \$ 17.14           | \$ 21.92            |
| 80,001                                             | 90,000 | \$ 19.35           | \$ 24.61            |
| 90,001                                             | & up   | \$ 21.61           | \$ 27.34            |

# Rate Comparison CY2021 vs CY2022

| Base Rates |                    |          |         |          |                     |          |         |
|------------|--------------------|----------|---------|----------|---------------------|----------|---------|
| Meter Size | Inside City Limits |          |         |          | Outside City Limits |          |         |
|            | 2021               | 2022     | Delta   |          | 2021                | 2022     | Delta   |
| 3/4"       | \$ 27.50           | \$ 30.00 | \$ 2.50 |          | \$ 43.75            | \$ 46.25 | \$ 2.50 |
| 1"         | \$ 30.25           | \$ 33.00 | \$ 2.75 |          | \$ 46.50            | \$ 49.25 | \$ 2.75 |
| 1-1/2"     | \$ 48.13           | \$ 52.50 | \$ 4.37 |          | \$ 64.38            | \$ 68.75 | \$ 4.37 |
| 2"         | \$ 55.00           | \$ 60.00 | \$ 5.00 | \$ 71.25 | \$ 76.25            | \$ 5.00  |         |

| Water Usage, gals |        | \$ / 1000 Gallons  |          |         |  |                     |          |         |
|-------------------|--------|--------------------|----------|---------|--|---------------------|----------|---------|
| Start             | End    | Inside City Limits |          |         |  | Outside City Limits |          |         |
|                   |        | 2021               | 2022     | Delta   |  | 2021                | 2022     | Delta   |
| 1,000             | 5,000  | \$ -               | \$ 2.82  | \$ 2.82 |  | \$ -                | \$ 4.55  | \$ 4.55 |
| 5,001             | 10,000 | \$ 2.82            | \$ 2.82  | \$ -    |  | \$ 4.55             | \$ 4.55  | \$ -    |
| 10,001            | 15,000 | \$ 2.82            | \$ 4.75  | \$ 1.93 |  | \$ 4.55             | \$ 6.89  | \$ 2.34 |
| 15,001            | 20,000 | \$ 4.75            | \$ 4.75  | \$ -    |  | \$ 6.89             | \$ 6.89  | \$ -    |
| 20,001            | 25,000 | \$ 4.75            | \$ 6.71  | \$ 1.96 |  | \$ 6.89             | \$ 9.27  | \$ 2.38 |
| 25,001            | 30,000 | \$ 6.71            | \$ 6.71  | \$ -    |  | \$ 9.27             | \$ 9.27  | \$ -    |
| 30,001            | 35,000 | \$ 6.71            | \$ 8.72  | \$ 2.01 |  | \$ 9.27             | \$ 12.07 | \$ 2.80 |
| 35,001            | 40,000 | \$ 8.72            | \$ 8.72  | \$ -    |  | \$ 12.07            | \$ 12.07 | \$ -    |
| 40,001            | 45,000 | \$ 8.72            | \$ 10.76 | \$ 2.04 |  | \$ 12.07            | \$ 14.82 | \$ 2.75 |
| 45,001            | 50,000 | \$ 10.76           | \$ 10.76 | \$ -    |  | \$ 14.82            | \$ 14.82 | \$ -    |
| 50,001            | 55,000 | \$ 10.76           | \$ 12.85 | \$ 2.09 |  | \$ 14.82            | \$ 17.54 | \$ 2.72 |
| 55,001            | 60,000 | \$ 12.85           | \$ 12.85 | \$ -    |  | \$ 17.54            | \$ 17.54 | \$ -    |
| 60,001            | 65,000 | \$ 12.85           | \$ 14.97 | \$ 2.12 |  | \$ 17.54            | \$ 19.37 | \$ 1.83 |
| 65,001            | 70,000 | \$ 14.97           | \$ 14.97 | \$ -    |  | \$ 19.37            | \$ 19.37 | \$ -    |
| 70,001            | 75,000 | \$ 14.97           | \$ 17.14 | \$ 2.17 |  | \$ 19.37            | \$ 21.92 | \$ 2.55 |
| 75,001            | 80,000 | \$ 17.14           | \$ 17.14 | \$ -    |  | \$ 21.92            | \$ 21.92 | \$ -    |
| 80,001            | 85,000 | \$ 17.14           | \$ 19.35 | \$ 2.21 |  | \$ 21.92            | \$ 24.61 | \$ 2.69 |
| 85,001            | 90,000 | \$ 19.35           | \$ 19.35 | \$ -    |  | \$ 24.61            | \$ 24.61 | \$ -    |
| 90,001            | 95,000 | \$ 19.35           | \$ 21.61 | \$ 2.26 |  | \$ 24.61            | \$ 27.34 | \$ 2.73 |
| 95,001            | up     | \$ 21.61           | \$ 21.61 | \$ -    |  | \$ 27.34            | \$ 27.34 | \$ -    |

# Benchmark Cities – Cost Comparison

## Inside Cities – FY2022 (as of 10/24/22)

| Average Consumption - 5,000 gallons |          |
|-------------------------------------|----------|
| Converse                            | \$ 28.80 |
| SAWS**                              | \$ 37.31 |
| Schertz                             | \$ 42.46 |
| Garden Ridge                        | \$ 44.10 |
| Shavano Park*                       | \$ 45.27 |

| Average Consumption - 50k gallons |           |
|-----------------------------------|-----------|
| Converse                          | \$ 178.10 |
| Shavano Park*                     | \$ 206.87 |
| Schertz                           | \$ 280.03 |
| Garden Ridge                      | \$ 367.60 |
| SAWS**                            | \$ 623.52 |

| Average Consumption – 10,000 gallons |          |
|--------------------------------------|----------|
| Converse                             | \$ 42.10 |
| Garden Ridge                         | \$ 58.20 |
| Schertz                              | \$ 59.26 |
| Shavano Park*                        | \$ 62.27 |
| SAWS**                               | \$ 72.76 |

| Average Consumption – 100k gallons |            |
|------------------------------------|------------|
| Converse                           | \$ 358.60  |
| Shavano Park*                      | \$ 487.17  |
| Schertz                            | \$ 600.03  |
| Garden Ridge                       | \$ 1226.80 |
| SAWS**                             | \$ 1378.77 |

Water cost only \* Incl Debt service fee \*\* Incl Water supply fee

# Water Consumption by Billing Tier

## Inside City Limits (1601 accts at EOY)

\* Adjusted for new tier structure

| Tier   | Gallons/Month |            |            |            |            |
|--------|---------------|------------|------------|------------|------------|
|        | FY2018        | FY2019     | FY2020     | *FY2021    | *FY2022    |
| 0      |               | 4,998,750  | 5,493,750  |            |            |
| 1      | 8,349,167     | 6,947,833  | 8,393,167  | 12,266,250 | 12,638,500 |
| 2      | 4,862,250     | 4,034,833  | 4,985,333  | 6,325,500  | 6,786,583  |
| 3      | 2,698,833     | 2,445,667  | 2,821,750  | 3,205,667  | 3,710,917  |
| 4      | 1,480,583     | 1,446,667  | 1,492,000  | 1,575,750  | 2,743,417  |
| 5      | 821,417       | 876,000    | 791,833    | 751,167    | 916,333    |
| 6      | 459,167       | 503,750    | 429,083    | 367,333    | 468,500    |
| 7      | 271,167       | 299,000    | 185,250    | 190,333    | 266,667    |
| 8      | 160,333       | 195,500    | 141,583    | 100,500    | 159,500    |
| 9      | 100,750       | 135,583    | 90,333     | 68,167     | 99,417     |
| 10     | 248,167       | 305,000    | 185,417    | 199,333    | 232,083    |
| Totals | 19,451,834    | 22,188,583 | 25,009,499 | 25,050,000 | 28,021,917 |

**11.9% Increase**

Mean Total - 23,944,367 gal/month  $\sigma$  - 2,906,853 gal/month (+/- 12%)

# Water Consumption by Billing Tier Outside City Limits (84 accts by EOY)

\* Adjusted for new tier structure

| Tier   | Gallons/Month |         |         |         |         |
|--------|---------------|---------|---------|---------|---------|
|        | FY2018        | FY2019  | FY2020  | *FY2021 | *FY2022 |
| 0      |               | 197,500 | 226,250 |         |         |
| 1      | 271,500       | 199,000 | 245,334 | 517,917 | 517,667 |
| 2      | 82,917        | 68,333  | 70,000  | 125,833 | 133,083 |
| 3      | 26,750        | 30,333  | 23,583  | 38,667  | 46,250  |
| 4      | 10,583        | 11,667  | 6,583   | 10,083  | 11,667  |
| 5      | 1,583         | 5,167   | 2,417   | 2,167   | 4,583   |
| 6      | 833           | 1,750   | 1,083   | 833     | 1,667   |
| 7      | 0             | 834     | 834     | 250     | 833     |
| 8      | 0             | 833     | 833     | 0       | 833     |
| 9      | 0             | 833     | 833     | 0       | 250     |
| 10     | 0             | 0       | 250     | 0       | 250     |
| Totals | 394,166       | 516,250 | 578,000 | 695,750 | 717,083 |

**3.1% Increase**

Mean Total – 580,250 gal/month    $\sigma$  – 118,989 gal/month (+/- 21%)

# Water Consumption Demand Characteristics, FY2021

| Residential Inside City Limits |       |        |                 |               | Residential Outside City Limits |        |       |        |                 |               |
|--------------------------------|-------|--------|-----------------|---------------|---------------------------------|--------|-------|--------|-----------------|---------------|
| Tier                           | Start | End    | Consumption     | Users         |                                 | Tier   | Start | End    | Consumption     | Users         |
|                                |       |        | % total gallons | % total bills |                                 |        |       |        | % total gallons | % total bills |
| 0                              | 0     | 5000   | 5.2%            | 26.5%         |                                 | 0      | 0     | 5000   | 19.6%           | 46.5%         |
| 1                              | 5001  | 15000  | 22.0%           | 35.5%         |                                 | 1      | 5001  | 15000  | 43.3%           | 40.5%         |
| 2                              | 15001 | 25000  | 24.2%           | 19.0%         |                                 | 2      | 15001 | 25000  | 20.8%           | 8.8%          |
| 3                              | 25001 | 35000  | 18.3%           | 9.6%          |                                 | 3      | 25001 | 35000  | 10.8%           | 3.1%          |
| 4                              | 35001 | 45000  | 12.5%           | 4.9%          |                                 | 4      | 35001 | 45000  | 3.7%            | 0.8%          |
| 5                              | 45001 | 55000  | 7.3%            | 2.3%          |                                 | 5      | 45001 | 55000  | 1.1%            | 0.2%          |
| 6                              | 55001 | 65000  | 4.0%            | 1.1%          |                                 | 6      | 55001 | 65000  | 0.8%            | 0.1%          |
| 7                              | 65001 | 75000  | 2.2%            | 0.5%          |                                 | 7      | 65001 | 75000  | 0.0%            | 0.0%          |
| 8                              | 75001 | 85000  | 1.2%            | 0.2%          |                                 | 8      | 75001 | 85000  | 0.0%            | 0.0%          |
| 9                              | 85001 | 95000  | 0.7%            | 0.1%          |                                 | 9      | 85001 | 95000  | 0.0%            | 0.0%          |
| 10                             | 95001 | and up | 2.5%            | 0.3%          |                                 | 10     | 95001 | and up | 0.0%            | 0.0%          |
| Totals                         |       |        | 100.0%          | 100.0%        |                                 | Totals |       |        | 100.0%          | 100.0%        |
|                                |       |        | 300,600 kgal    | 19,145        |                                 |        |       |        | 8,349 kgal      | 998           |
|                                |       |        |                 |               |                                 |        |       |        |                 |               |
| Average per account, gal/month |       |        | 15,804          |               |                                 |        |       |        | 8,383           |               |

# Water Consumption

## Demand Characteristics, FY2022

| Residential Inside City Limits |       |        |                 |               | Residential Outside City Limits |        |       |        |                 |               |
|--------------------------------|-------|--------|-----------------|---------------|---------------------------------|--------|-------|--------|-----------------|---------------|
| Tier                           | Start | End    | Consumption     | Users         |                                 | Tier   | Start | End    | Consumption     | Users         |
|                                |       |        | % total gallons | % total bills |                                 |        |       |        | % total gallons | % total bills |
| 1                              | 0     | 10000  | 14.0%           | 46.3%         |                                 | 1      | 0     | 10000  | 42.7%           | 74.9%         |
| 2                              | 10001 | 20000  | 20.8%           | 23.9%         |                                 | 2      | 10001 | 20000  | 28.8%           | 16.9%         |
| 3                              | 20001 | 30000  | 20.3%           | 14.0%         |                                 | 3      | 20001 | 30000  | 16.0%           | 5.4%          |
| 4                              | 30001 | 40000  | 19.2%           | 8.0%          |                                 | 4      | 30001 | 40000  | 8.1%            | 2.1%          |
| 5                              | 40001 | 50000  | 10.5%           | 4.0%          |                                 | 5      | 40001 | 50000  | 1.6%            | 0.3%          |
| 6                              | 50001 | 60000  | 5.4%            | 1.7%          |                                 | 6      | 50001 | 60000  | 1.9%            | 0.3%          |
| 7                              | 60001 | 70000  | 3.3%            | 0.9%          |                                 | 7      | 60001 | 70000  | 0.0%            | 0.0%          |
| 8                              | 70001 | 80000  | 2.0%            | 0.5%          |                                 | 8      | 70001 | 80000  | 0.0%            | 0.0%          |
| 9                              | 80001 | 90000  | 1.3%            | 0.3%          |                                 | 9      | 80001 | 90000  | 1.0%            | 0.1%          |
| 10                             | 90001 | and up | 3.3%            | 0.5%          |                                 | 10     | 90001 | and up | 0.0%            | 0.0%          |
| Totals                         |       |        | 100.0%          | 100.0%        |                                 | Totals |       |        | 100.0%          | 100.0%        |
|                                |       |        | 336,263 kgal    | 19,472 bills  |                                 |        |       |        | 8,602 kgal      | 1,011 bills   |
|                                |       |        |                 |               |                                 |        |       |        |                 |               |
| Average per account, gal/month |       |        | 17,266          |               |                                 |        |       |        | 8,534           |               |

# Operating Results

Forecast Model vs. Most Current Values

\*Fund balance adj to incl  
req res contribution

\*\* 1Q at prior year rates

| Item                                                   | Model<br>Forecast, \$ | FY2022<br>Budget, \$ | Rev and Exp<br>Rpt 9/30, \$ | EOY Utility<br>Report, \$ |
|--------------------------------------------------------|-----------------------|----------------------|-----------------------------|---------------------------|
| Revenue from Base Rates                                | 626,961               | -                    | -                           | 610,333**                 |
| Revenue from Volume Sales                              | 1,305,442             | -                    | -                           | 1,562,927**               |
| Total Revenue ( adj for<br>uncollected bills and fees) | 1,940,471             | 1,817,500            | 2,175,860<br>+12%           | 2,148,260 est             |
| M&O Expenses                                           | 1,105,580             | 1,105,580            | 1,133,360                   | -                         |
| Debt Service Expenses                                  | 711,950               | 711,920              | 720,257                     | -                         |
| Total Expenses                                         | 1,817,530             | 1,817,500            | 1,853,617<br>+2%            | -                         |
| Net Revenue                                            | 122,941               | 0                    | 322,243                     | -                         |
| -Req Reserve Contribution*                             | 116,516               | -                    | -                           | -                         |
| Gain (Loss) to Fund Balance                            | 6,425                 | 0                    | 322,243                     | -                         |
| Fund Balance*                                          | 1,241,373             | 1,258,738            | 1,580,981 est               | --                        |
| Months of Reserve                                      | 5.8                   | 6.0                  | 9.1 est                     |                           |

CAUTION: Financial data UNAUDITED

# Overview

- Background
- Objective
- Current Rates, Benchmarks, and Operating Results
- Update Model Data
  - Water Consumption
  - Water Fund Expenditures
  - Water Fund Balance
- Proposed Water Rates
  - Options
  - Results – Model Predictions Feasible Cases
  - Staff and Sub-Committee Recommendations
- Discussion / Recommendation

# Water Rate Analysis Model

- University of North Carolina, Chapel Hill Environmental Finance Center
- Multi-factor model creates “balance sheet” forecasts for planning

## Step 1

Input the year below and input up to 12 rate structures (e.g. water, wastewater, residential, commercial, inside, outside, etc.) in the dark green cells. Input existing rates in the first column and the [new] rates in the next five years.

| Rate Structure(s)                                                    |  | Fiscal Year:            |  | 2021         |  | FY2022     |  | FY2023  |  | FY2024  |  | FY2025  |  | FY2026  |  |         |  |         |  |
|----------------------------------------------------------------------|--|-------------------------|--|--------------|--|------------|--|---------|--|---------|--|---------|--|---------|--|---------|--|---------|--|
|                                                                      |  |                         |  | Existing     |  | New        |  |         |  |         |  |         |  |         |  |         |  |         |  |
| Rate Structure 1:                                                    |  | 3/4" Inside City Limits |  |              |  |            |  |         |  |         |  |         |  |         |  |         |  |         |  |
| Monthly Base Charge:                                                 |  |                         |  |              |  | \$27.50    |  | \$31.00 |  | \$32.00 |  | \$33.00 |  | \$34.00 |  |         |  |         |  |
| Consumption allowance included with the base charge (gallons/month): |  |                         |  |              |  | 0          |  | 0       |  | 0       |  | 0       |  | 0       |  |         |  |         |  |
|                                                                      |  |                         |  | Block Start: |  | Block End: |  |         |  |         |  |         |  |         |  |         |  |         |  |
| Block rate 1 (\$/1,000 gal)                                          |  | 10,001                  |  | gal/mo       |  | 10,000     |  | gal/mo  |  | \$0.00  |  | \$2.82  |  | \$2.90  |  | \$3.00  |  | \$3.17  |  |
| Block rate 2 (\$/1,000 gal)                                          |  | 10,001                  |  | gal/mo       |  | 20,000     |  | gal/mo  |  | \$2.82  |  | \$4.75  |  | \$4.89  |  | \$5.04  |  | \$5.36  |  |
| Block rate 3 (\$/1,000 gal)                                          |  | 20,001                  |  | gal/mo       |  | 30,000     |  | gal/mo  |  | \$4.75  |  | \$6.71  |  | \$6.91  |  | \$7.12  |  | \$7.74  |  |
| Block rate 4 (\$/1,000 gal)                                          |  | 30,001                  |  | gal/mo       |  | 40,000     |  | gal/mo  |  | \$6.71  |  | \$8.72  |  | \$8.98  |  | \$9.25  |  | \$10.03 |  |
| Block rate 5 (\$/1,000 gal)                                          |  | 40,001                  |  | gal/mo       |  | 50,000     |  | gal/mo  |  | \$8.72  |  | \$10.76 |  | \$11.08 |  | \$11.42 |  | \$12.41 |  |
| Block rate 6 (\$/1,000 gal)                                          |  | 50,001                  |  | gal/mo       |  | 60,000     |  | gal/mo  |  | \$10.76 |  | \$12.85 |  | \$13.23 |  | \$13.63 |  | \$14.94 |  |
| Block rate 7 (\$/1,000 gal)                                          |  | 60,001                  |  | gal/mo       |  | 70,000     |  | gal/mo  |  | \$12.85 |  | \$14.97 |  | \$15.40 |  | \$15.81 |  | \$17.61 |  |
| Block rate 8 (\$/1,000 gal)                                          |  | 70,001                  |  | gal/mo       |  | 80,000     |  | gal/mo  |  | \$14.97 |  | \$17.14 |  | \$17.66 |  | \$18.19 |  | \$21.29 |  |
| Block rate 9 (\$/1,000 gal)                                          |  | 80,001                  |  | gal/mo       |  | 90,000     |  | gal/mo  |  | \$17.14 |  | \$19.35 |  | \$19.93 |  | \$20.58 |  | \$25.73 |  |
| Final block rate (\$/1,000 gal)                                      |  | 90,001                  |  | gal/mo       |  | and beyond |  |         |  | \$19.35 |  | \$21.61 |  | \$22.26 |  | \$22.93 |  | \$32.32 |  |

|                                                                                           |        |        |            |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|-------------------------------------------------------------------------------------------|--------|--------|------------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>Rate Structure 2: 3/4" Outside City Limits</b>                                         |        |        |            |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Monthly Base Charge: Consumption allowance included with the base charge (gallons/month): |        |        |            |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Block Start: Block End                                                                    |        |        |            |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Block rate 1 (\$/1,000 gal)                                                               | 10,001 | gal/mo | 10,000     | gal/mo | \$0.00  | \$4.55  | \$4.73  | \$4.88  | \$5.02  | \$5.17  | \$5.31  | \$5.45  | \$5.59  | \$5.73  | \$5.87  | \$6.01  | \$6.15  | \$6.29  | \$6.43  | \$6.57  | \$6.71  | \$6.85  | \$6.99  | \$7.13  | \$7.27  | \$7.41  | \$7.55  | \$7.69  | \$7.83  | \$7.97  |
| Block rate 2 (\$/1,000 gal)                                                               | 10,001 | gal/mo | 20,000     | gal/mo | \$4.55  | \$6.89  | \$7.16  | \$7.38  | \$7.60  | \$7.83  | \$8.05  | \$8.27  | \$8.49  | \$8.71  | \$8.93  | \$9.15  | \$9.37  | \$9.59  | \$9.81  | \$10.03 | \$10.25 | \$10.47 | \$10.69 | \$10.91 | \$11.13 | \$11.35 | \$11.57 | \$11.79 | \$12.01 | \$12.23 |
| Block rate 3 (\$/1,000 gal)                                                               | 20,001 | gal/mo | 30,000     | gal/mo | \$6.89  | \$9.27  | \$9.64  | \$9.93  | \$10.23 | \$10.54 | \$10.84 | \$11.14 | \$11.44 | \$11.74 | \$12.04 | \$12.34 | \$12.64 | \$12.94 | \$13.24 | \$13.54 | \$13.84 | \$14.14 | \$14.44 | \$14.74 | \$15.04 | \$15.34 | \$15.64 | \$15.94 | \$16.24 | \$16.54 |
| Block rate 4 (\$/1,000 gal)                                                               | 30,001 | gal/mo | 40,000     | gal/mo | \$9.27  | \$11.67 | \$12.07 | \$12.36 | \$12.65 | \$12.94 | \$13.23 | \$13.52 | \$13.81 | \$14.10 | \$14.39 | \$14.68 | \$14.97 | \$15.26 | \$15.55 | \$15.84 | \$16.13 | \$16.42 | \$16.71 | \$17.00 | \$17.29 | \$17.58 | \$17.87 | \$18.16 | \$18.45 | \$18.74 |
| Block rate 5 (\$/1,000 gal)                                                               | 40,001 | gal/mo | 50,000     | gal/mo | \$11.67 | \$14.02 | \$14.41 | \$14.69 | \$14.97 | \$15.25 | \$15.53 | \$15.81 | \$16.09 | \$16.37 | \$16.65 | \$16.93 | \$17.21 | \$17.49 | \$17.77 | \$18.05 | \$18.33 | \$18.61 | \$18.89 | \$19.17 | \$19.45 | \$19.73 | \$20.01 | \$20.29 | \$20.57 | \$20.85 |
| Block rate 6 (\$/1,000 gal)                                                               | 50,001 | gal/mo | 60,000     | gal/mo | \$14.02 | \$16.34 | \$16.72 | \$17.00 | \$17.28 | \$17.56 | \$17.84 | \$18.12 | \$18.40 | \$18.68 | \$18.96 | \$19.24 | \$19.52 | \$19.80 | \$20.08 | \$20.36 | \$20.64 | \$20.92 | \$21.20 | \$21.48 | \$21.76 | \$22.04 | \$22.32 | \$22.60 | \$22.88 | \$23.16 |
| Block rate 7 (\$/1,000 gal)                                                               | 60,001 | gal/mo | 70,000     | gal/mo | \$16.34 | \$18.63 | \$19.00 | \$19.27 | \$19.54 | \$19.81 | \$20.08 | \$20.35 | \$20.62 | \$20.89 | \$21.16 | \$21.43 | \$21.70 | \$21.97 | \$22.24 | \$22.51 | \$22.78 | \$23.05 | \$23.32 | \$23.59 | \$23.86 | \$24.13 | \$24.40 | \$24.67 | \$24.94 | \$25.21 |
| Block rate 8 (\$/1,000 gal)                                                               | 70,001 | gal/mo | 80,000     | gal/mo | \$18.63 | \$20.89 | \$21.25 | \$21.51 | \$21.77 | \$22.03 | \$22.29 | \$22.55 | \$22.81 | \$23.07 | \$23.33 | \$23.59 | \$23.85 | \$24.11 | \$24.37 | \$24.63 | \$24.89 | \$25.15 | \$25.41 | \$25.67 | \$25.93 | \$26.19 | \$26.45 | \$26.71 | \$26.97 | \$27.23 |
| Block rate 9 (\$/1,000 gal)                                                               | 80,001 | gal/mo | 90,000     | gal/mo | \$21.92 | \$24.16 | \$24.51 | \$24.76 | \$25.01 | \$25.26 | \$25.51 | \$25.76 | \$26.01 | \$26.26 | \$26.51 | \$26.76 | \$27.01 | \$27.26 | \$27.51 | \$27.76 | \$28.01 | \$28.26 | \$28.51 | \$28.76 | \$29.01 | \$29.26 | \$29.51 | \$29.76 | \$30.01 | \$30.26 |
| Final block rate (\$/1,000 gal)                                                           | 90,001 | gal/mo | and beyond |        | \$24.61 | \$27.34 | \$28.43 | \$29.29 | \$30.17 | \$31.07 | \$31.97 | \$32.87 | \$33.77 | \$34.67 | \$35.57 | \$36.47 | \$37.37 | \$38.27 | \$39.17 | \$40.07 | \$40.97 | \$41.87 | \$42.77 | \$43.67 | \$44.57 | \$45.47 | \$46.37 | \$47.27 | \$48.17 | \$49.07 |

|                                            |        |        |            |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|--------------------------------------------|--------|--------|------------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>Rate Structure 3:</b>                   |        |        |            |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Monthly Base Charge: Consumption allowance |        |        |            |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Block rate 1 (\$/1,000 gal)                |        |        |            |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Block rate 2 (\$/1,000 gal)                | 10,001 | gal/mo | 20,000     | gal/mo | \$0.00  | \$2.92  | \$2.90  | \$2.89  | \$2.88  | \$2.87  | \$2.86  | \$2.85  | \$2.84  | \$2.83  | \$2.82  | \$2.81  | \$2.80  | \$2.79  | \$2.78  | \$2.77  | \$2.76  | \$2.75  | \$2.74  | \$2.73  | \$2.72  | \$2.71  | \$2.70  | \$2.69  | \$2.68  | \$2.67  |
| Block rate 3 (\$/1,000 gal)                | 20,001 | gal/mo | 30,000     | gal/mo | \$2.92  | \$4.75  | \$4.69  | \$4.64  | \$4.59  | \$4.54  | \$4.49  | \$4.44  | \$4.39  | \$4.34  | \$4.29  | \$4.24  | \$4.19  | \$4.14  | \$4.09  | \$4.04  | \$3.99  | \$3.94  | \$3.89  | \$3.84  | \$3.79  | \$3.74  | \$3.69  | \$3.64  | \$3.59  | \$3.54  |
| Block rate 4 (\$/1,000 gal)                | 30,001 | gal/mo | 40,000     | gal/mo | \$4.75  | \$6.71  | \$6.61  | \$6.51  | \$6.41  | \$6.31  | \$6.21  | \$6.11  | \$6.01  | \$5.91  | \$5.81  | \$5.71  | \$5.61  | \$5.51  | \$5.41  | \$5.31  | \$5.21  | \$5.11  | \$5.01  | \$4.91  | \$4.81  | \$4.71  | \$4.61  | \$4.51  | \$4.41  | \$4.31  |
| Block rate 5 (\$/1,000 gal)                | 40,001 | gal/mo | 50,000     | gal/mo | \$6.71  | \$8.72  | \$8.58  | \$8.44  | \$8.30  | \$8.16  | \$8.02  | \$7.88  | \$7.74  | \$7.60  | \$7.46  | \$7.32  | \$7.18  | \$7.04  | \$6.90  | \$6.76  | \$6.62  | \$6.48  | \$6.34  | \$6.20  | \$6.06  | \$5.92  | \$5.78  | \$5.64  | \$5.50  | \$5.36  |
| Block rate 6 (\$/1,000 gal)                | 50,001 | gal/mo | 60,000     | gal/mo | \$8.72  | \$10.76 | \$10.58 | \$10.42 | \$10.26 | \$10.10 | \$9.94  | \$9.78  | \$9.62  | \$9.46  | \$9.30  | \$9.14  | \$8.98  | \$8.82  | \$8.66  | \$8.50  | \$8.34  | \$8.18  | \$8.02  | \$7.86  | \$7.70  | \$7.54  | \$7.38  | \$7.22  | \$7.06  | \$6.90  |
| Block rate 7 (\$/1,000 gal)                | 60,001 | gal/mo | 70,000     | gal/mo | \$10.76 | \$12.85 | \$12.63 | \$12.43 | \$12.23 | \$12.03 | \$11.83 | \$11.63 | \$11.43 | \$11.23 | \$11.03 | \$10.83 | \$10.63 | \$10.43 | \$10.23 | \$10.03 | \$9.83  | \$9.63  | \$9.43  | \$9.23  | \$9.03  | \$8.83  | \$8.63  | \$8.43  | \$8.23  | \$8.03  |
| Block rate 8 (\$/1,000 gal)                | 70,001 | gal/mo | 80,000     | gal/mo | \$12.85 | \$14.97 | \$14.72 | \$14.49 | \$14.26 | \$14.03 | \$13.80 | \$13.57 | \$13.34 | \$13.11 | \$12.88 | \$12.65 | \$12.42 | \$12.19 | \$11.96 | \$11.73 | \$11.50 | \$11.27 | \$11.04 | \$10.81 | \$10.58 | \$10.35 | \$10.12 | \$9.89  | \$9.66  | \$9.43  |
| Block rate 9 (\$/1,000 gal)                | 80,001 | gal/mo | 90,000     | gal/mo | \$14.97 | \$17.14 | \$16.86 | \$16.60 | \$16.34 | \$16.08 | \$15.82 | \$15.56 | \$15.30 | \$15.04 | \$14.78 | \$14.52 | \$14.26 | \$14.00 | \$13.74 | \$13.48 | \$13.22 | \$12.96 | \$12.70 | \$12.44 | \$12.18 | \$11.92 | \$11.66 | \$11.40 | \$11.14 | \$10.88 |
| Final block rate (\$/1,000 gal)            | 90,001 | gal/mo | and beyond |        | \$17.14 | \$19.35 | \$19.03 | \$18.73 | \$18.43 | \$18.13 | \$17.83 | \$17.53 | \$17.23 | \$16.93 | \$16.63 | \$16.33 | \$16.03 | \$15.73 | \$15.43 | \$15.13 | \$14.83 | \$14.53 | \$14.23 | \$13.93 | \$13.63 | \$13.33 | \$13.03 | \$12.73 | \$12.43 | \$12.13 |

|                          |  |
|--------------------------|--|
| <b>Rate Structure 4:</b> |  |
|--------------------------|--|

# Updated Water Consumption by Tier

**Monthly Average Outside  
City Limits water  
consumption < 3% of total**

| Tier          | Inside City Limits<br>Gal/Mo<br><b>FY 2022</b> | Outside City Limits<br>Gal/Mo<br><b>FY 2022</b> |
|---------------|------------------------------------------------|-------------------------------------------------|
| 0             |                                                |                                                 |
| 1             | <b>12,638,500</b>                              | <b>517,667</b>                                  |
| 2             | <b>6,786,583</b>                               | <b>133,083</b>                                  |
| 3             | <b>3,710,917</b>                               | <b>46,250</b>                                   |
| 4             | <b>2,743,417</b>                               | <b>11,667</b>                                   |
| 5             | <b>916,333</b>                                 | <b>4,583</b>                                    |
| 6             | <b>468,500</b>                                 | <b>1,667</b>                                    |
| 7             | <b>266,667</b>                                 | <b>833</b>                                      |
| 8             | <b>159,500</b>                                 | <b>833</b>                                      |
| 9             | <b>99,417</b>                                  | <b>250</b>                                      |
| 10            | <b>232,083</b>                                 | <b>250</b>                                      |
| <b>Totals</b> | <b>28,021,917</b>                              | <b>717,083</b>                                  |

1601 accts

84 accts

| Accounts and Uncollected Bills         | Number of Accounts<br>in FY 2022 |
|----------------------------------------|----------------------------------|
| 3/4" Inside City Limits                | <b>1,580</b>                     |
| 3/4" Outside City Limits               | <b>84</b>                        |
| 1" Meter Size - Inside City Limits     | <b>1</b>                         |
| 1-1/2" Meter Size - Inside City Limits | <b>9</b>                         |
| 2" Meter Size - Inside City Limits     | <b>11</b>                        |

# Update Model Data

## Water Consumption - Assumptions

- Growth Rate
  - New home construction expected to remain low
  - New commercial construction on FM2252 beginning
  - $\frac{3}{4}$ " meters - 0.5%/year inside, 0% outside (+8) (+15, +0 FY22)
  - 1" meters – 0% inside and outside (+0 FY22)
  - 1  $\frac{1}{2}$ " and 2" meters – 10.0%/year inside only (+2) (+1 FY22)
- Projected Change in Average Consumption
  - No Change at -1.0%/year (+ 9% est FY22)
- Modeled Reduction in Average Consumption after 10% rate increase
  - No Change at -2.0%/year
- Connection fees manually set to match budget projection

# Update Model Data

## Water Fund Budgeted Expenditures

| WATER FUND                        | FY 2021<br>AUDIT    | FY 2022<br>BUDGET   | FY 2023<br>PROPOSED<br>BUDGET |
|-----------------------------------|---------------------|---------------------|-------------------------------|
| <b><u>EXPENDITURE SUMMARY</u></b> |                     |                     |                               |
| PERSONNEL SERVICES                | \$ 413,075          | \$ 480,240          | \$ 522,099                    |
| PROFESSIONAL SERVICES             | 758,583             | 139,000             | 95,197                        |
| FEES                              | 65,961              | 66,000              | 66,000                        |
| CITY SUPPORT SERVICES             | 743                 | 3,800               | 3,300                         |
| STAFF SUPPORT                     | 8,787               | 14,600              | 13,350                        |
| OPERATIONAL SUPPORT               | 92,391              | 103,400             | 116,041                       |
| SUPPLIES                          | 10,738              | 8,000               | 15,000                        |
| UTILITY SERVICES                  | 176,685             | 198,900             | 196,620                       |
| MAINTENANCE SERVICES              | 38,001              | 74,520              | 76,320                        |
| OPERATING EQUIPMENT               | 0                   | 2,420               | 2,140                         |
| OTHER COST                        | 12,673              | 13,200              | 10,000                        |
| DEBT SERVICE & LOAN PAYMENTS      | 663,927             | 711,920             | 713,005                       |
| FUND CHANGES/TRANSFERS            | 0                   | 1,500               | 1,500                         |
| <b>TOTAL EXPENDITURES</b>         | <b>\$ 2,241,564</b> | <b>\$ 1,817,500</b> | <b>\$ 1,830,572</b>           |

Assume 5.00% - Inflation

# Update Model Data

- Step 4 – Updated with current debt service schedule for FY2022 – FY2036
  - Does not forecast future projects
- Step 1 - Rate Structure is primary variable in case studies
- “Case 0 - Base Case” using current rate structure
- Maintained current volume tiers
- Adjusted base and tier rates as needed

# Water Fund Reserve

FY2023 Water Fund Budget Expenditures :

12 Months of Operations      \$ 1,117,567

Debt Serv. Payment (100%)    \$    713,005

> \$ 1,830,572

Step 7 - Reserve level FY 2022 YE      \$ 1,258,738

**\$ 1,580,981**

Shortfall of Water Fund Reserve Goal      \$    571,834

**\$    249,591**

Step 6 - Adjust model based on replenishment rate

**Ex: to replenish fund in 5 years      \$    114,367/yr**

**to replenish fund in 4 years      \$    62,398/yr**

**At modeled rate, projected replenishment in 2.2 years**

# Overview

- Background
- Objective
- Current Rates, Benchmarks, and Operating Results
- Update Model Data
  - Water Consumption
  - Water Fund Expenditures
  - Water Fund Balance
- **Proposed Water Rates**
  - **Options**
  - **Results – Model Predictions Feasible Cases**
  - **Staff and Sub-Committee Recommendations**
- Discussion / Recommendation

# Proposed Water Rates

## Developing Options – Cost of Service

### FY2023 Water Fund Budget Expenditures:

|                           |              |   |              |
|---------------------------|--------------|---|--------------|
| Operating & Maintenance   | \$ 1,117,567 | > | \$ 1,830,572 |
| Debt Serv. Payment (100%) | \$ 713,005   |   |              |

### Number of Accounts:

|                           |      |   |      |
|---------------------------|------|---|------|
| Residential Inside – ¾"   | 1580 | > | 1685 |
| Residential Inside – 1"   | 1    |   |      |
| Residential Inside – 1 ½" | 9    |   |      |
| Residential Inside – 2"   | 11   |   |      |
| Residential Outside – ¾"  | 84   |   |      |

### Average cost per account per month:

|                         |          |   |         |
|-------------------------|----------|---|---------|
| Operating & Maintenance | \$ 55.27 | > | \$90.53 |
| Debt Serv. Payment      | \$ 35.26 |   |         |

# Proposed Water Rates

## Developing Options

Current  
Total Water Bill  
¾" meters

Average RO usage →

Average RI usage →

| Water Usage, gallons | Inside City Limits | Outside City Limits |
|----------------------|--------------------|---------------------|
| 1,000                | \$ 32.82           | \$ 50.80            |
| 2,000                | \$ 35.64           | \$ 55.35            |
| 3,000                | \$ 38.46           | \$ 59.90            |
| 4,000                | \$ 41.28           | \$ 64.45            |
| 5,000                | \$ 44.10           | \$ 69.00            |
| 6,000                | \$ 46.92           | \$ 73.55            |
| 7,000                | \$ 49.74           | \$ 78.10            |
| 8,000                | \$ 52.56           | \$ 82.65            |
| 9,000                | \$ 55.38           | \$ 87.20            |
| 10,000               | \$ 58.20           | \$ 91.75            |
| 11,000               | \$ 62.95           | \$ 98.64            |
| 12,000               | \$ 67.70           | \$ 105.53           |
| 13,000               | \$ 72.45           | \$ 112.42           |
| 14,000               | \$ 77.20           | \$ 119.31           |
| 15,000               | \$ 81.95           | \$ 126.20           |
| 16,000               | \$ 86.70           | \$ 133.09           |
| 17,000               | \$ 91.45           | \$ 139.98           |
| 18,000               | \$ 96.20           | \$ 146.87           |
| 19,000               | \$ 100.95          | \$ 153.76           |
| 20,000               | \$ 105.70          | \$ 160.65           |
| 21,000               | \$ 112.41          | \$ 169.92           |
| 22,000               | \$ 119.12          | \$ 179.19           |
| 23,000               | \$ 125.83          | \$ 188.46           |
| 24,000               | \$ 132.54          | \$ 197.73           |
| 25,000               | \$ 139.25          | \$ 207.00           |

# Proposed Water Rates

## Developing Options – Cost of Service

### FY2023 Water Fund Budget Expenditures:

|                           |              |   |              |
|---------------------------|--------------|---|--------------|
| Operating & Maintenance   | \$ 1,117,567 | > | \$ 1,830,572 |
| Debt Serv. Payment (100%) | \$ 713,005   |   |              |

### Total Gallons of Water Sold:

|                     |           |   |           |
|---------------------|-----------|---|-----------|
| Residential Inside  | 336,263 k | > | 344,865 k |
| Residential Outside | 8,602 k   |   |           |

### Average cost per 1,000 gallons:

Tier 2 – \$4.75

Tier 3 – \$6.71

**\$ 5.31**

### Cost per 1,000 gallons incl base rate for “average” user:

Res Inside 17,000 gal - **\$5.38**      Residential Outside 9,000 gal - **\$9.69**

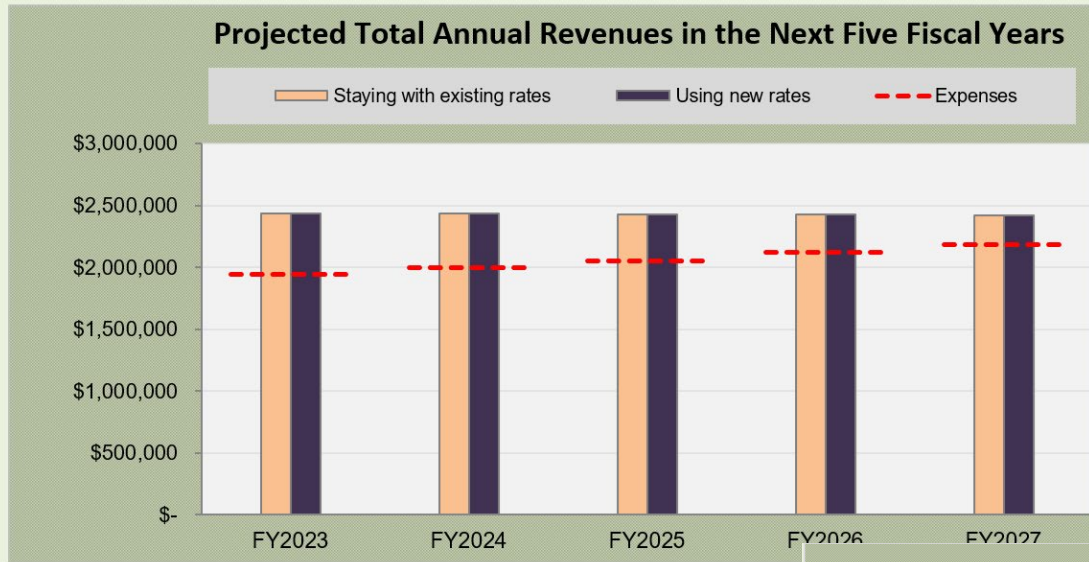
# Proposed Water Rates

## Developing Options – Case Studies Considered

- Baseline case – maintain current rates and tiers
- Baseline case modified for FY2021 consumption
- Baseline case modified for reduced consumption
  - 17% reduction from FY2022 consumption levels
- Maintaining Current Tiers
  - Maintained 5 yr reserve recovery rate
  - Considered inside vs. outside city rates
    - Equalized either base rates or tier rates
  - Maintained tier rates with \$0.50 reduction in base rate
  - \$0.50 base rate reduction, set RO tier rates = RI tier rates
- Cases indicated by numbers, i.e. Case 1, Case 2, etc

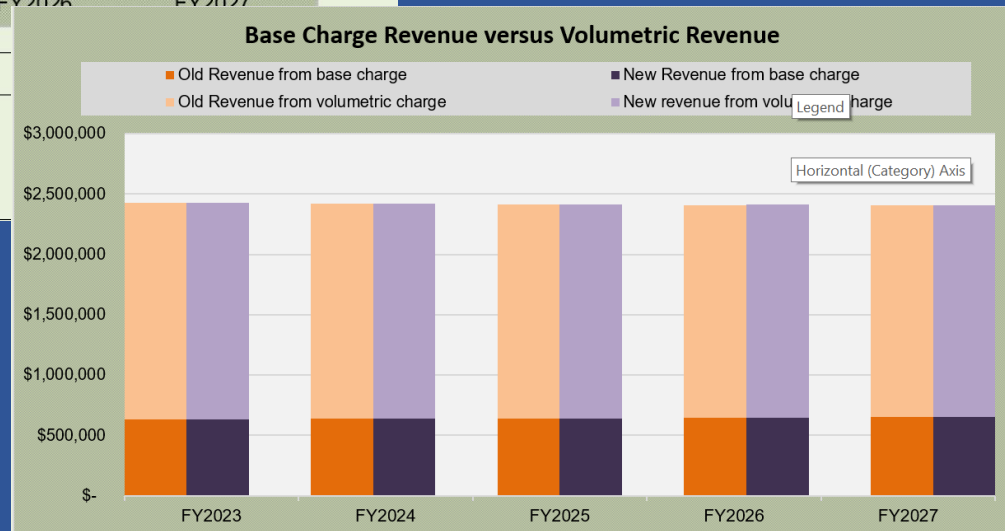
# Proposed Water Rates

## Results - Case 0, “Do Nothing Option”



| Fiscal Year:                          |               | 2022     | FY2023  |
|---------------------------------------|---------------|----------|---------|
|                                       |               | Existing | New     |
| 3/4" Inside City Limits               |               |          |         |
|                                       |               | \$30.00  | \$30.00 |
| with the base charge (gallons/month): |               | 0        | 0       |
| Block Start:                          |               |          |         |
| - gal/mo                              | 10,000 gal/mo | \$2.82   | \$2.82  |
| 10,001 gal/mo                         | 20,000 gal/mo | \$4.75   | \$4.75  |
| 20,001 gal/mo                         | 30,000 gal/mo | \$6.71   | \$6.71  |
| 30,001 gal/mo                         | 40,000 gal/mo | \$8.72   | \$8.72  |
| 40,001 gal/mo                         | 50,000 gal/mo | \$10.76  | \$10.76 |
| 50,001 gal/mo                         | 60,000 gal/mo | \$12.85  | \$12.85 |
| 60,001 gal/mo                         | 70,000 gal/mo | \$14.97  | \$14.97 |
| 70,001 gal/mo                         | 80,000 gal/mo | \$17.14  | \$17.14 |
| 80,001 gal/mo                         | 90,000 gal/mo | \$19.35  | \$19.35 |
| 90,001 gal/mo                         | and beyond    | \$21.61  | \$21.61 |

|                                                      | FY2023    | FY2024    |
|------------------------------------------------------|-----------|-----------|
| Net revenues without changing rates (existing rates) | \$495,311 | \$437,202 |
| Net revenues after changing rates (new rates)        | \$495,311 | \$437,502 |

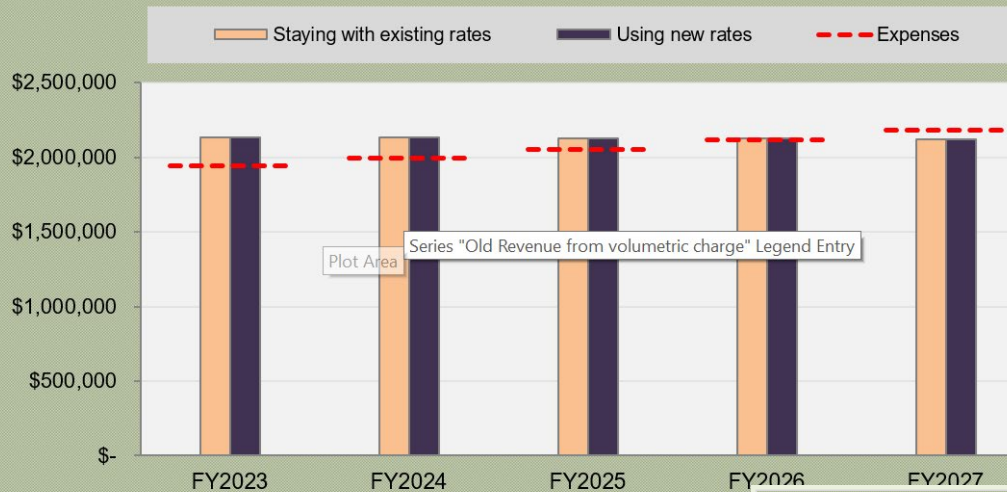


Note: Model predicts a net revenue of \$213,974 when FY2021 consumption values were used. \$281,337 delta similar to \$199,302 difference in predicted vs. actual performance of last year's model.

# Proposed Water Rates

## Results - Case 0<sub>c</sub>, “17% reduced usage”

**Projected Total Annual Revenues in the Next Five Fiscal Years**



**Fiscal Year:** 2022 FY2023

**Existing New**

3/4" Inside City Limits

ed with the base charge (gallons/month):

|         |         |
|---------|---------|
| \$30.00 | \$30.00 |
| 0       | 0       |

Block Start:

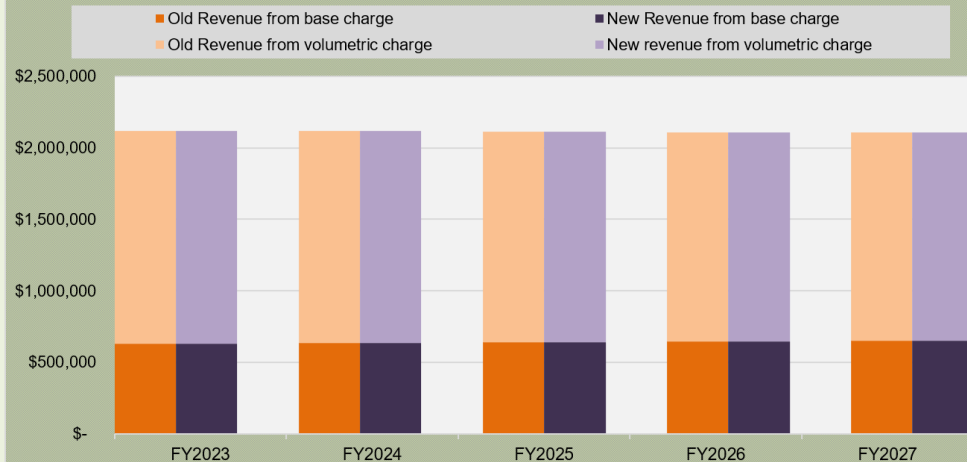
Block End:

|               |               |         |         |
|---------------|---------------|---------|---------|
| - gal/mo      | 10,000 gal/mo | \$2.82  | \$2.82  |
| 10,001 gal/mo | 20,000 gal/mo | \$4.75  | \$4.75  |
| 20,001 gal/mo | 30,000 gal/mo | \$6.71  | \$6.71  |
| 30,001 gal/mo | 40,000 gal/mo | \$8.72  | \$8.72  |
| 40,001 gal/mo | 50,000 gal/mo | \$10.76 | \$10.76 |
| 50,001 gal/mo | 60,000 gal/mo | \$12.85 | \$12.85 |
| 60,001 gal/mo | 70,000 gal/mo | \$14.97 | \$14.97 |
| 70,001 gal/mo | 80,000 gal/mo | \$17.14 | \$17.14 |
| 80,001 gal/mo | 90,000 gal/mo | \$19.35 | \$19.35 |
| 90,001 gal/mo | and beyond    | \$21.61 | \$21.61 |

**FY2023 FY2024**

|                                                      |           |           |
|------------------------------------------------------|-----------|-----------|
| Net revenues without changing rates (existing rates) | \$190,714 | \$134,172 |
| Net revenues after changing rates (new rates)        | \$190,714 | \$134,172 |

**Base Charge Revenue versus Volumetric Revenue**

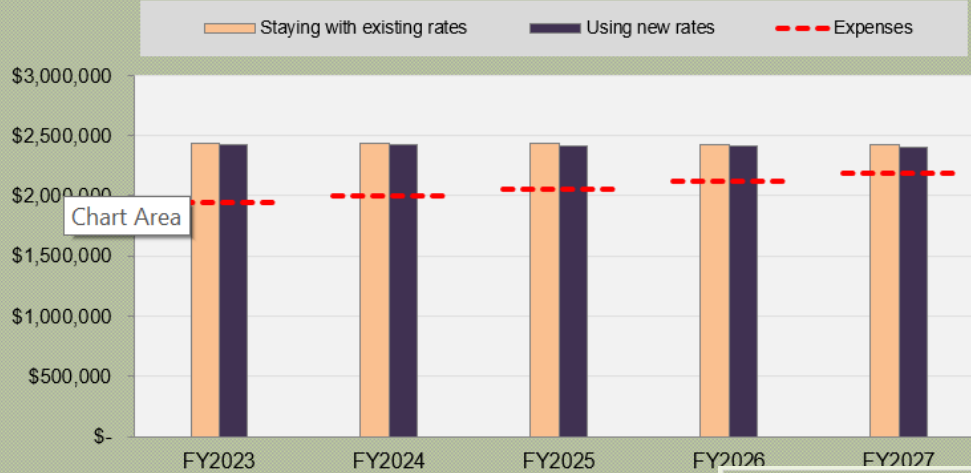


Note: Data since 2014 indicates +/- 17% consumption change from dry/hot to cool/wet years likely maximum variation.

# Proposed Water Rates

Results - Case 1; RO tier rates = RI, RI unchanged

**Projected Total Annual Revenues in the Next Five Fiscal Years**



**3/4" Inside City Limits**

| 2022    | FY2023  |
|---------|---------|
| \$30.00 | \$30.00 |
| 0       | 0       |
|         |         |
| \$2.82  | \$2.82  |
| \$4.75  | \$4.75  |
| \$6.71  | \$6.71  |
| \$8.72  | \$8.72  |
| \$10.76 | \$10.76 |
| \$12.85 | \$12.85 |
| \$14.97 | \$14.97 |
| \$17.14 | \$17.14 |
| \$19.35 | \$19.35 |
| \$21.61 | \$21.61 |

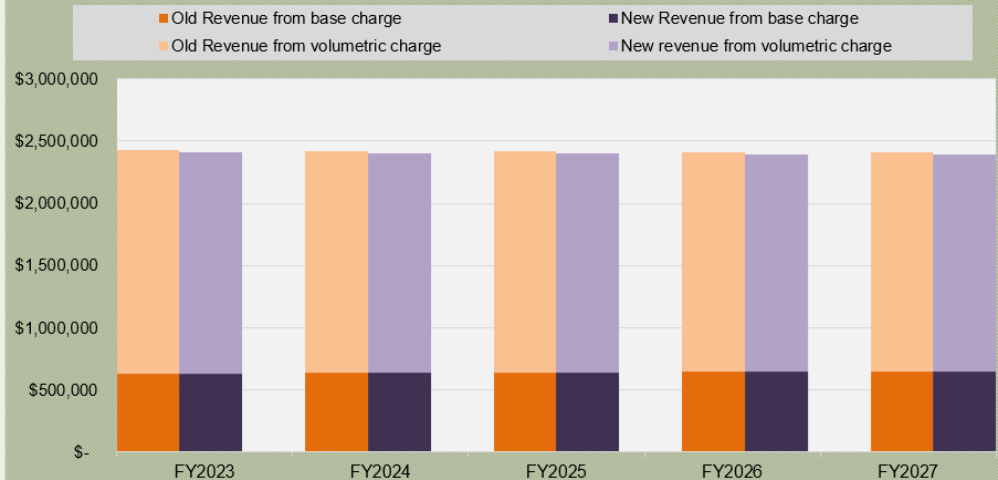
**3/4' Outside City Limits**

| FY2022  | FY2023  |
|---------|---------|
| \$46.25 | \$46.25 |
| 0       | 0       |
|         |         |
| \$4.55  | \$2.82  |
| \$6.89  | \$4.75  |
| \$9.27  | \$6.71  |
| \$12.07 | \$8.72  |
| \$14.82 | \$10.76 |
| \$17.54 | \$12.85 |
| \$19.37 | \$14.97 |
| \$21.92 | \$17.14 |
| \$24.61 | \$19.35 |
| \$27.34 | \$21.61 |

**FY2023 FY2024**

|                                                      |           |           |
|------------------------------------------------------|-----------|-----------|
| Net revenues without changing rates (existing rates) | \$495,311 | \$437,202 |
| Net revenues after changing rates (new rates)        | \$479,641 | \$421,689 |

**Base Charge Revenue versus Volumetric Revenue**



# Proposed Water Rates

Results - Case 2; RO base rates = RI, RI unchanged

Projected Total Annual Revenues in the Next Five Fiscal Years

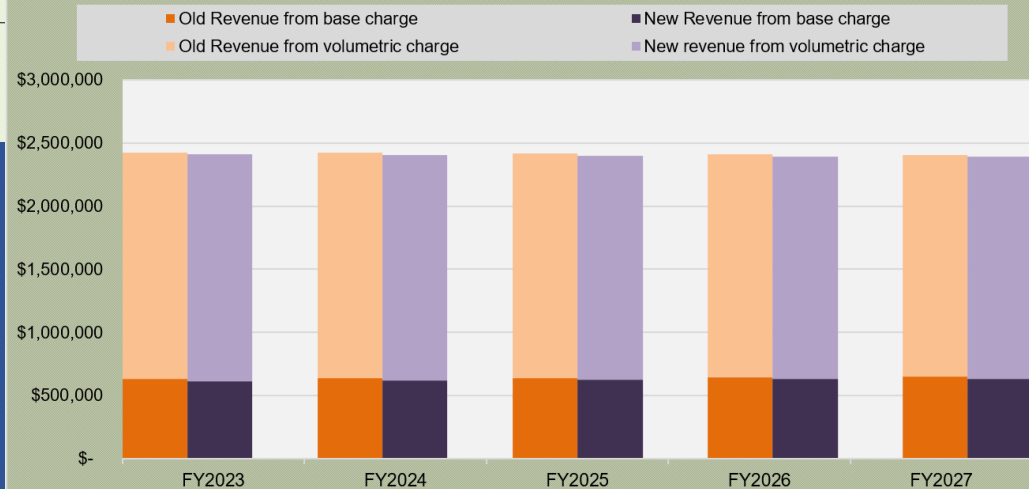


| 3/4" Inside City Limits |         | 3/4' Outside City Limits |         |
|-------------------------|---------|--------------------------|---------|
| 2022                    | FY2023  | 2022                     | FY2023  |
| \$30.00                 | \$30.00 | \$46.25                  | \$30.00 |
| 0                       | 0       | 0                        | 0       |
| \$2.82                  | \$2.82  | \$4.55                   | \$4.55  |
| \$4.75                  | \$4.75  | \$6.89                   | \$6.89  |
| \$6.71                  | \$6.71  | \$9.27                   | \$9.27  |
| \$8.72                  | \$8.72  | \$12.07                  | \$12.07 |
| \$10.76                 | \$10.76 | \$14.82                  | \$14.82 |
| \$12.85                 | \$12.85 | \$17.54                  | \$17.54 |
| \$14.97                 | \$14.97 | \$19.37                  | \$19.37 |
| \$17.14                 | \$17.14 | \$21.92                  | \$21.92 |
| \$19.35                 | \$19.35 | \$24.61                  | \$24.61 |
| \$21.61                 | \$21.61 | \$27.34                  | \$27.34 |

FY2023 FY2024

|                                                      |           |           |
|------------------------------------------------------|-----------|-----------|
| Net revenues without changing rates (existing rates) | \$495,311 | \$437,202 |
| Net revenues after changing rates (new rates)        | \$479,332 | \$421,220 |

Base Charge Revenue versus Volumetric Revenue



# Proposed Water Rates

## Results - Case 3; Reduce base rates \$0.50

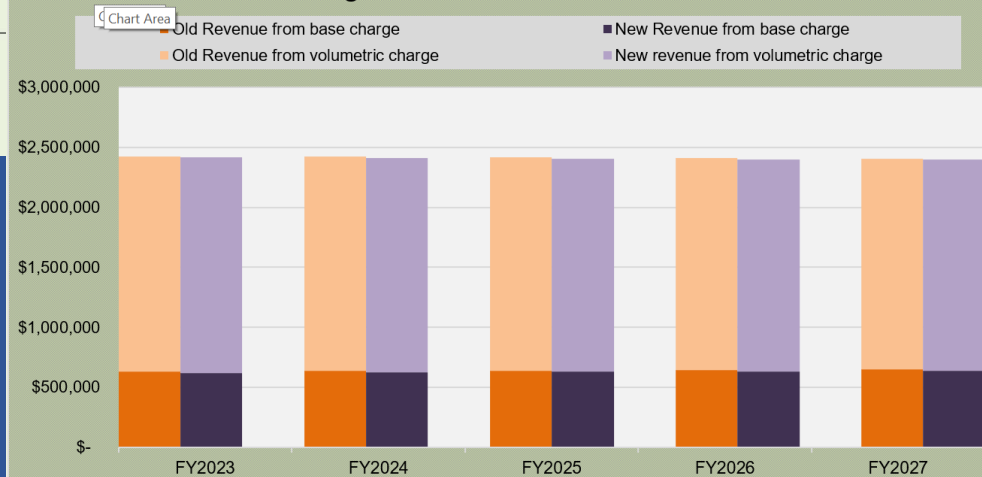
**Projected Total Annual Revenues in the Next Five Fiscal Years**



| 3/4" Inside City Limits |         | 3/4" Outside City Limits |         |
|-------------------------|---------|--------------------------|---------|
| 2022                    | FY2023  | 2022                     | FY2023  |
| Existing                | New     | Existing                 | New     |
| \$30.00                 | \$29.50 | \$46.25                  | \$45.75 |
| 0                       | 0       | 0                        | 0       |
| \$2.82                  | \$2.82  | \$4.55                   | \$4.55  |
| \$4.75                  | \$4.75  | \$6.89                   | \$6.89  |
| \$6.71                  | \$6.71  | \$9.27                   | \$9.27  |
| \$8.72                  | \$8.72  | \$12.07                  | \$12.07 |
| \$10.76                 | \$10.76 | \$14.82                  | \$14.82 |
| \$12.85                 | \$12.85 | \$17.54                  | \$17.54 |
| \$14.97                 | \$14.97 | \$19.37                  | \$19.37 |
| \$17.14                 | \$17.14 | \$21.92                  | \$21.92 |
| \$19.35                 | \$19.35 | \$24.61                  | \$24.61 |
| \$21.61                 | \$21.61 | \$27.34                  | \$27.34 |

|                                                      | FY2023    | FY2024    |
|------------------------------------------------------|-----------|-----------|
| Net revenues without changing rates (existing rates) | \$495,311 | \$437,202 |
| Net revenues after changing rates (new rates)        | \$485,927 | \$427,743 |

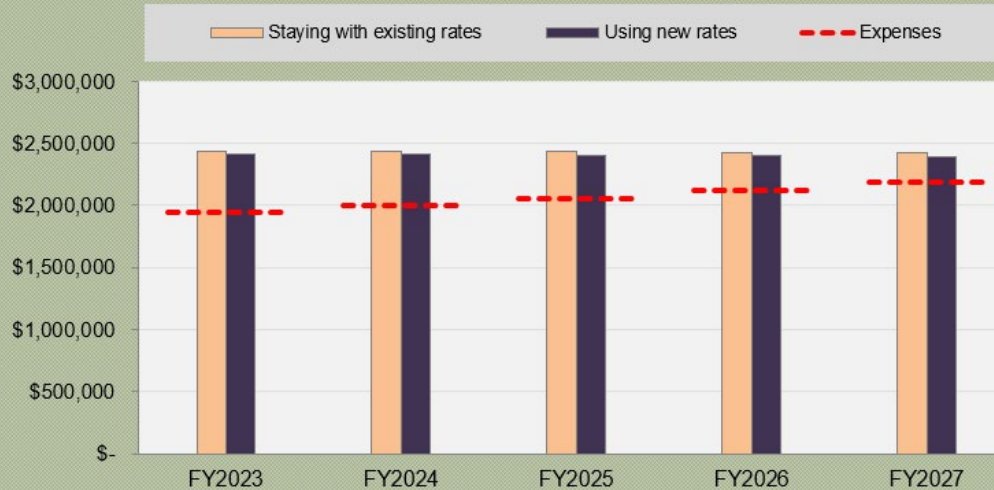
**Base Charge Revenue versus Volumetric Revenue**



# Proposed Water Rates

Results - Case 4; -\$ 0.50 base rate, RO Tiers = RI

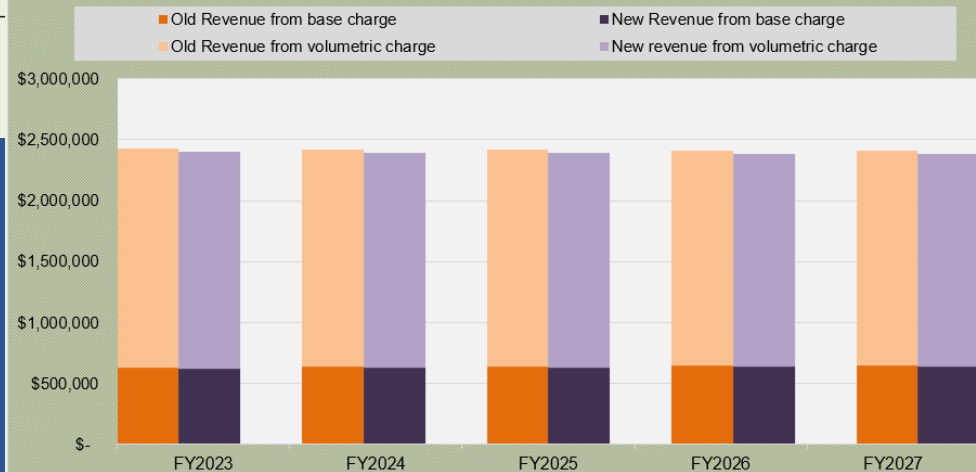
**Projected Total Annual Revenues in the Next Five Fiscal Years**



| 3/4" Inside City Limits |         | 3/4' Outside City Limits |         |
|-------------------------|---------|--------------------------|---------|
| 2022                    | FY2023  | 2022                     | FY2023  |
| Existing                | New     | Existing                 | New     |
| \$30.00                 | \$29.50 | \$46.25                  | \$45.75 |
| 0                       | 0       | 0                        | 0       |
| \$2.82                  | \$2.82  | \$4.55                   | \$2.82  |
| \$4.75                  | \$4.75  | \$6.89                   | \$4.75  |
| \$6.71                  | \$6.71  | \$9.27                   | \$6.71  |
| \$8.72                  | \$8.72  | \$12.07                  | \$8.72  |
| \$10.76                 | \$10.76 | \$14.82                  | \$10.76 |
| \$12.85                 | \$12.85 | \$17.54                  | \$12.85 |
| \$14.97                 | \$14.97 | \$19.37                  | \$14.97 |
| \$17.14                 | \$17.14 | \$21.92                  | \$17.14 |
| \$19.35                 | \$19.35 | \$24.61                  | \$19.35 |
| \$21.61                 | \$21.61 | \$27.34                  | \$21.61 |

|                                                      | FY2023    | FY2024    |
|------------------------------------------------------|-----------|-----------|
| Net revenues without changing rates (existing rates) | \$495,311 | \$437,202 |
| Net revenues after changing rates (new rates)        | \$470,254 | \$412,227 |

**Base Charge Revenue versus Volumetric Revenue**



# Proposed Water Rates

## Options - Case Study Results Summary

| Options #      | Remarks                 | Base Rate Increase (Decrease) | Tier 1 Range | % Increase to Tier Rates | Adjustment to RI/RO Rates | Buildup Reserve to "x" months of M&O | Buildup Reserve in "y" years | Net Income |
|----------------|-------------------------|-------------------------------|--------------|--------------------------|---------------------------|--------------------------------------|------------------------------|------------|
| 0              | No changes              | \$ -                          | 0-10         | 0%                       | N/A                       | 12                                   | 5                            | \$ 495,311 |
| 0 <sub>b</sub> | FY21 consumption        | \$ -                          | 0-10         | 0%                       | N/A                       | 12                                   | 5                            | \$ 213,974 |
| 0 <sub>c</sub> | 17% reduced consumption | \$ -                          | 0-10         | 0%                       | N/A                       | 12                                   | 5                            | \$ 190,714 |
| 1              | RI no change            | \$ -                          | 0-10         | 0%                       | Tiers RO=RI               | 12                                   | 5                            | \$ 479,641 |
| 2              | RI no change            | \$ -                          | 0-10         | 0%                       | Base RO=RI                | 12                                   | 5                            | \$ 479,332 |
| 3              | across board            | \$ (0.50)                     | 0-10         | 0%                       | N/A                       | 12                                   | 5                            | \$ 485,927 |
| 4              | combination             | \$ (0.50)                     | 0-10         | 0%                       | Tiers RO=RI               | 12                                   | 5                            | \$ 470,254 |
|                |                         |                               |              |                          |                           |                                      |                              |            |

# Proposed CY2023 Rate Structure

## Case 0 – Staff and Sub-committee Recommendation

| Base Rates |                    |                     |
|------------|--------------------|---------------------|
| Meter Size | Inside City Limits | Outside City Limits |
| 3/4"       | \$ 30.00           | \$ 46.25            |
| 1"         | \$ 33.00           | \$ 49.25            |
| 1-1/2"     | \$ 52.50           | \$ 68.75            |
| 2"         | \$ 60.00           | \$ 76.25            |

No changes to rate structure for next year.

| Volumetric Tier Rate Structure |          |                    |                     |
|--------------------------------|----------|--------------------|---------------------|
| Start                          | End      | Inside City Limits | Outside City Limits |
| 1                              | 10,000   | \$ 2.82            | \$ 4.55             |
| 10,001                         | 20,000   | \$ 4.75            | \$ 6.89             |
| 20,001                         | 30,000   | \$ 6.71            | \$ 9.27             |
| 30,001                         | 40,000   | \$ 8.72            | \$ 12.07            |
| 40,001                         | 50,000   | \$ 10.76           | \$ 14.82            |
| 50,001                         | 60,000   | \$ 12.85           | \$ 17.54            |
| 60,001                         | 70,000   | \$ 14.97           | \$ 19.37            |
| 70,001                         | 80,000   | \$ 17.14           | \$ 21.92            |
| 80,001                         | 90,000   | \$ 19.35           | \$ 24.61            |
| 90,001                         | and over | \$ 21.61           | \$ 27.34            |

# Proposed CY2023 Rate Structure

## Staff and Sub-committee Rationale

- Water Department was at or near minimum reserves last year – significantly restructured rates
  - Council set goal to achieve target reserve level within 5 years
    - 12 months O&M plus debt service
    - Due to dry, hot conditions revenues exceeded targets, but reserves still less than 12 months
  - Risk of significant capital expenditures ahead
    - FM2252 utility relocation, repair/replace aging storage, replace older distribution lines – Master Plan in progress
  - Market risks due to inflation
  - Supply risks with rapid growth impacting area aquifers
- “Stay the course” and re-evaluate next year***

# Overview

- Background
- Objective
- Current Rates, Benchmarks, and Operating Results
- Update Model Data
  - Water Consumption
  - Water Fund Expenditures
  - Water Fund Balance
- Proposed Water Rates
  - Options
  - Results – Model Predictions Feasible Cases
  - Staff and Sub-Committee Recommendations
- Discussion / Recommendation

# Discussion of Options

| Options #      | Remarks                 | Base Rate Increase (Decrease) | Tier 1 Range | % Increase to Tier Rates | Adjustment to RI/RO Rates | Buildup Reserve to "x" months of M&O | Buildup Reserve in "y" years | Net Income |
|----------------|-------------------------|-------------------------------|--------------|--------------------------|---------------------------|--------------------------------------|------------------------------|------------|
| 0              | No changes              | \$ -                          | 0-10         | 0%                       | N/A                       | 12                                   | 5                            | \$ 495,311 |
| 0 <sub>b</sub> | FY21 consumption        | \$ -                          | 0-10         | 0%                       | N/A                       | 12                                   | 5                            | \$ 213,974 |
| 0 <sub>c</sub> | 17% reduced consumption | \$ -                          | 0-10         | 0%                       | N/A                       | 12                                   | 5                            | \$ 190,714 |
| 1              | RI no change            | \$ -                          | 0-10         | 0%                       | Tiers RO=RI               | 12                                   | 5                            | \$ 479,641 |
| 2              | RI no change            | \$ -                          | 0-10         | 0%                       | Base RO=RI                | 12                                   | 5                            | \$ 479,332 |
| 3              | across board            | \$ (0.50)                     | 0-10         | 0%                       | N/A                       | 12                                   | 5                            | \$ 485,927 |
| 4              | combination             | \$ (0.50)                     | 0-10         | 0%                       | Tiers RO=RI               | 12                                   | 5                            | \$ 470,254 |

- Cases and Results
- Sub-committee and Staff Recommendations
- Other Impacts to Consider
  - Need For Monthly Performance Data – Consumption, Expenses, Revenues
  - Potential changes to utility billing system to enhance data collection and analysis
  - Rate Review Process Improvements
- Water Commission Recommendation for Council?

# Backup Slides

# Benchmark Cities – Rate Structures

## Area City Water Rate Overview – Oct 2022

|            |                                                       | Alamo Heights* | Cibola | Converse | Fair Oaks Ranch | Garden Ridge | New Braunfels | SAWS | Schertz | Selma | Shavano Park | Universal City |
|------------|-------------------------------------------------------|----------------|--------|----------|-----------------|--------------|---------------|------|---------|-------|--------------|----------------|
| BASE RATES | One Base Rate                                         |                | X      |          |                 |              |               |      | X       |       |              |                |
|            | Base Rate covers 'X' gallons                          | 0              | 1.2    | 0        | 6               | 0            | 0             | 0    | 0       | 2K    | 0            | 0              |
|            | Base Rate Vary by Meter Size                          | X              |        |          | X               | X            | X             | X    | X       |       | X            | X              |
|            | Base Rate Varies by Inside or Outside City Limits     |                |        | X        |                 | X            |               | X    | X       |       |              | X              |
| TIER RATES | Tier Rates for Inside or Outside City Limits          |                |        | X        |                 | X            |               | X    | X       |       |              | X              |
|            | Same Tier Rate Table for Inside & Outside City Limits | X              | X      |          |                 |              | X             |      |         | X     | X            |                |
|            | Commerical Rates Same as Residential                  |                |        | X        |                 | X            |               |      |         |       |              |                |
|            | Tier Rates for Residential & Commerical               |                |        |          | X               |              |               |      |         |       |              |                |
|            | Tier Rates for off-peak & Peak seasons                |                |        |          |                 |              | X             |      |         | X     |              |                |
|            | Tier rate begins at                                   | 0              | 0      | 0        | 6               | 0            | 0             | 0    | 0       | 2     | 0            | 0              |
|            | Tier flat at X kgal                                   | 17             | 50     | 25       | 100             | 90           | 25            | 20   | 18      | 45    | 100          | 40             |
| OTHER      | Water Supply Fee**                                    |                |        |          |                 |              |               | X    |         |       |              |                |
|            | Debt Service Fee                                      |                |        |          | X               |              |               |      |         |       | X            |                |
|            | Capital Reserve Fee                                   |                |        |          | X               |              |               |      |         |       |              |                |
|            | Surface Water Fee                                     |                |        |          | X               |              |               |      |         |       |              |                |

\* Alamo Heights - removed from analysis due rates were per 100 cubic feet

\*SAWS Water Supply Fee - directly funds the acquisition of new water supplies to reduce San Antonio's dependence on the Edwards Aquifer and shall be assessed to all potable water service.

# Benchmark Cities – Cost Comparison

## Inside Cities – FY2022 (as of 10/24/22)

| Gallons | Selma**   | Converse* | Garden Ridge* | Schertz*  | Universal City | NBU***    | SAWS****    | Cibolo      | Shavano Pk***** | Fair Oaks Rh***** |
|---------|-----------|-----------|---------------|-----------|----------------|-----------|-------------|-------------|-----------------|-------------------|
| 1,000   | \$ 12.28  | \$ 17.76  | \$ 32.82      | \$ 28.18  | \$ 28.42       | \$ 29.04  | \$ 23.71    | \$ 26.26    | \$ 32.99        | \$ 55.36          |
| 2,000   | \$ 12.28  | \$ 20.52  | \$ 35.64      | \$ 31.75  | \$ 30.67       | \$ 30.91  | \$ 26.04    | \$ 32.01    | \$ 36.06        | \$ 55.36          |
| 3,000   | \$ 14.21  | \$ 23.28  | \$ 38.46      | \$ 35.32  | \$ 32.92       | \$ 32.78  | \$ 30.10    | \$ 37.76    | \$ 39.13        | \$ 55.36          |
| 4,000   | \$ 16.14  | \$ 26.04  | \$ 41.28      | \$ 38.89  | \$ 35.17       | \$ 34.65  | \$ 34.17    | \$ 43.51    | \$ 42.20        | \$ 55.36          |
| 5,000   | \$ 18.07  | \$ 28.80  | \$ 44.10      | \$ 42.46  | \$ 37.42       | \$ 36.52  | \$ 37.31    | \$ 49.26    | \$ 45.27        | \$ 55.36          |
| 10,000  | \$ 33.90  | \$ 42.10  | \$ 58.20      | \$ 59.26  | \$ 54.18       | \$ 57.83  | \$ 72.76    | \$ 78.01    | \$ 62.27        | \$ 74.40          |
| 15,000  | \$ 49.10  | \$ 57.15  | \$ 81.95      | \$ 77.15  | \$ 76.33       | \$ 84.66  | \$ 118.08   | \$ 106.76   | \$ 79.27        | \$ 98.20          |
| 20,000  | \$ 64.30  | \$ 72.20  | \$ 105.70     | \$ 99.73  | \$ 102.89      | \$ 121.61 | \$ 170.37   | \$ 151.26   | \$ 96.27        | \$ 122.00         |
| 25,000  | \$ 84.95  | \$ 87.85  | \$ 139.25     | \$ 125.23 | \$ 147.09      | \$ 162.19 | \$ 245.90   | \$ 195.76   | \$ 113.27       | \$ 145.80         |
| 30,000  | \$ 105.60 | \$ 105.90 | \$ 172.80     | \$ 152.03 | \$ 191.29      | \$ 217.29 | \$ 321.42   | \$ 240.26   | \$ 130.27       | \$ 181.50         |
| 35,000  | \$ 126.25 | \$ 123.95 | \$ 216.40     | \$ 184.03 | \$ 235.49      | \$ 272.39 | \$ 396.95   | \$ 292.51   | \$ 149.42       | \$ 217.20         |
| 40,000  | \$ 167.90 | \$ 142.00 | \$ 260.00     | \$ 216.03 | \$ 279.69      | \$ 327.49 | \$ 472.47   | \$ 344.76   | \$ 168.57       | \$ 252.90         |
| 45,000  | \$ 209.55 | \$ 160.05 | \$ 313.80     | \$ 248.03 | \$ 367.79      | \$ 382.59 | \$ 548.00   | \$ 397.01   | \$ 187.72       | \$ 288.60         |
| 50,000  | \$ 263.15 | \$ 178.10 | \$ 367.60     | \$ 280.03 | \$ 455.89      | \$ 437.69 | \$ 623.52   | \$ 449.26   | \$ 206.87       | \$ 324.30         |
| 55,000  | \$ 316.75 | \$ 196.15 | \$ 431.85     | \$ 312.03 | \$ 543.99      | \$ 492.79 | \$ 699.05   | \$ 514.66   | \$ 229.77       | \$ 374.32         |
| 60,000  | \$ 370.35 | \$ 214.20 | \$ 496.10     | \$ 344.03 | \$ 632.09      | \$ 547.89 | \$ 774.57   | \$ 580.06   | \$ 252.67       | \$ 427.92         |
| 65,000  | \$ 423.95 | \$ 232.25 | \$ 570.95     | \$ 376.03 | \$ 720.19      | \$ 602.99 | \$ 850.10   | \$ 645.46   | \$ 275.57       | \$ 481.52         |
| 70,000  | \$ 477.55 | \$ 250.30 | \$ 645.80     | \$ 408.03 | \$ 808.29      | \$ 658.09 | \$ 925.62   | \$ 710.86   | \$ 298.47       | \$ 535.12         |
| 75,000  | \$ 531.15 | \$ 268.35 | \$ 731.50     | \$ 440.03 | \$ 896.39      | \$ 713.19 | \$ 1,001.15 | \$ 776.26   | \$ 329.92       | \$ 588.72         |
| 80,000  | \$ 584.75 | \$ 286.40 | \$ 817.20     | \$ 472.03 | \$ 984.49      | \$ 768.29 | \$ 1,076.67 | \$ 841.66   | \$ 361.37       | \$ 669.07         |
| 85,000  | \$ 638.35 | \$ 304.45 | \$ 913.95     | \$ 504.03 | \$ 1,072.59    | \$ 823.39 | \$ 1,152.20 | \$ 907.06   | \$ 392.82       | \$ 749.42         |
| 90,000  | \$ 691.95 | \$ 322.50 | \$ 1,010.70   | \$ 536.03 | \$ 1,160.69    | \$ 878.49 | \$ 1,227.72 | \$ 972.46   | \$ 424.27       | \$ 829.77         |
| 95,000  | \$ 745.55 | \$ 340.55 | \$ 1,118.75   | \$ 568.03 | \$ 1,248.79    | \$ 933.59 | \$ 1,303.25 | \$ 1,037.86 | \$ 455.72       | \$ 910.12         |
| 100,000 | \$ 799.15 | \$ 358.60 | \$ 1,226.80   | \$ 600.03 | \$ 1,336.89    | \$ 988.69 | \$ 1,378.77 | \$ 1,103.26 | \$ 487.17       | \$ 990.47         |

\*Inside City Limits

\*\*Peak Rates

\*\*\*Peak Rates / 1" Meters

\*\*\*\*Included Water Supply Fee

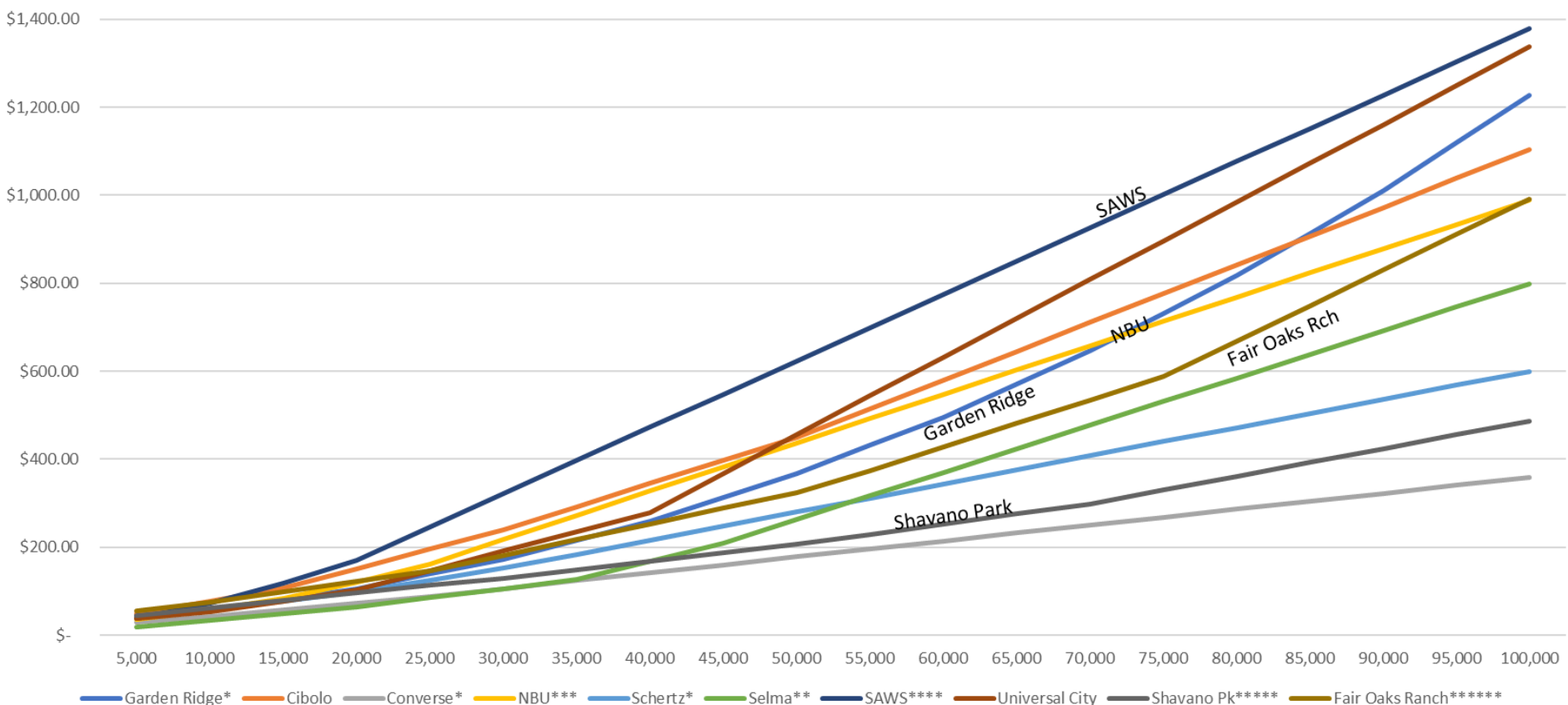
\*\*\*\*\*Included Debt Service Fee

\*\*\*\*\*Multiple Special Fees Included

# Benchmark Cities – Cost Comparison

## Inside Cities – FY2022 (as of 10/24/22)

2021 Area City Water Rate Comparison



# Operating Results FY21

Forecast Model vs. Most Current Values

\*Fund balance adj to incl  
req res contribution

\*\* 1Q at prior year rates

| Item                                                   | Model<br>Forecast, \$ | FY2021 Amd<br>Budget, \$ | Delta, \$          | EOY Utility<br>Report, \$ |
|--------------------------------------------------------|-----------------------|--------------------------|--------------------|---------------------------|
| Revenue from Base Rates                                | 568,605               | -                        |                    | 565,369                   |
| Revenue from Volume Sales                              | 1,254,871             | -                        |                    | 1,042,467**               |
| Total Revenue ( adj for<br>uncollected bills and fees) | 1,821,653             | 1,779,400                | (42,253)<br>(2.3%) | 1,633,236 est             |
| M&O Expenses                                           | 1,048,623             | 1,052,492                | 3,869              | -                         |
| Debt Service Expenses                                  | 663,355               | 663,355                  | -                  | -                         |
| Total Expenses                                         | 1,711,978             | 1,715,847                | 3,869              | -                         |
| Net Revenue                                            | 109,675               | 63,553                   | (46,122)           | -                         |
| -Req Reserve Contribution*                             | 102,235               | -                        | -                  | -                         |
| One-time Charge (AMI)                                  | 628,695               | 650,000                  | 21,305             | -                         |
| Gain (Loss) to Fund Balance                            | (519,020)             | (586,447)                | (67,427)           | -                         |
| Fund Balance*                                          | 1,310,470             | 1,234,948                | (75,522)           | --                        |
| Months of Reserve***                                   | 7.1                   | 6.5***                   | (0.6)              |                           |

\*\*\*FY2022 Budget Debt Service \$711,920, resulting in 6.0 months reserve

7.06 -- CUSTOMER AND NON-CUSTOMER COMPLAINTS.

Upon complaint to the Water Department, either at the Water Department office, by letter or by telephone, the Operations Manager will promptly make a suitable investigation and advise the complainant of the results. The manager may respond to the complainant in writing or by telephone. In either case, a written record of the complaint and disposition will be kept by the manager and reported monthly to the Water Commission. If the results are not to the complainant's satisfaction, the complainant may submit to the Water Department a written request to appear before the Water Commission. The complainant will be placed on the agenda of the next regular Water Commission meeting.

7.07 -- SERVICE AGREEMENT.

There must be a Service Agreement on file for each property that is connected to the Garden Ridge Water System. The agreement must be executed by the property owner, tenant, or agent for the property and by their signature agree to comply with the requirements of this Ordinance. Any property that was connected to the water system prior to its acquisition by the City of Garden Ridge is considered to have an agreement on file and through such agreement the property owner, tenant, or agent for the property agrees to the requirements of this Ordinance.

Failure by a property owner, tenant, or agent for a property connected to the Garden Ridge Water System to execute a Service Agreement, when required, shall result in refusal of service, disconnection of service and/or unauthorized connection to services.

Service Agreements are in "Appendix D" of this Ordinance.

7.08 -- PRIORITY OF SERVICE.

Priority of service will be in the order of: (1) Emergency Services (Cooperative effort only); (2) Residential in-home use; (3) Agricultural and livestock; (4) Industrial and Commercial; (5) Other.

7.09 -- OPERATING PRESSURES.

Minimum service pressure shall not be below 20 psi operating pressure. Maximum pressures may be at the Water Department's discretion. It will be the customer's responsibility to protect plumbing on the customer's side of the water meter against excessive pressures or surge using individual pressure regulators or other approved devices set forth in the State Plumbing Codes.

7.10 -- SERVICE AREAS.

The Water Department's service area is that area within which its lines and customers are located, and which area is approved by the Certificate of Convenience and Necessity issued by the Texas Water Commission. This area is located in Comal County, Texas, and includes the City of Garden Ridge, Texas, and the ETJ areas of the City of Garden Ridge, Texas, not serviced by another water system having possession of a valid Certificate of Convenience and Necessity to serve said areas.

# Future Agenda Items

## Water Commission

### December 20, 2022 Regular Meeting

|                        |              |                                                                                                                                          |
|------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 14 days before Meeting | (12/06/2022) | Water Commission and Staff items are due.                                                                                                |
| 11 days before Meeting | (12/09/2022) | Water Commission Chair reviews agenda.<br>City Attorney is sent agenda.                                                                  |
| 7 days before Meeting  | (12/13/2022) | Post agenda on bulletin board. Water Commission receives packet (allowing a day for corrections/request additional information be added) |
| 5 days before Meeting  | (12/15/2022) | Post agenda packet to City Website.                                                                                                      |
| 4 days before Meeting  | (12/16/2022) | (72 hours) – Local Government Code requirement for posting                                                                               |

City Council = Red

Planning & Zoning = Green

Water Commission = Blue

Municipal Court = Dark Gray

City Holiday = Orange

City Event = Yellow (Tree Lighting)

| Sun | Mon | Tues | Wed | Thur | Fri | Sat |
|-----|-----|------|-----|------|-----|-----|
|     |     |      |     | 1    | 2   | 3   |
| 4   | 5   | 6    | 7   | 8    | 9   | 10  |
| 11  | 12  | 13   | 14  | 15   | 16  | 17  |
| 18  | 19  | 20   | 21  | 22   | 23  | 24  |
| 25  | 26  | 27   | 28  | 29   | 30  | 31  |

### January 17, 2023 Regular Meeting

|                        |              |                                                                                                                                          |
|------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 14 days before Meeting | (01/03/2023) | Water Commission and Staff items are due.                                                                                                |
| 11 days before Meeting | (01/06/2023) | Water Commission Chair reviews agenda.<br>City Attorney is sent agenda.                                                                  |
| 7 days before Meeting  | (01/10/2023) | Post agenda on bulletin board. Water Commission receives packet (allowing a day for corrections/request additional information be added) |
| 5 days before Meeting  | (01/12/2023) | Post agenda packet to City Website.                                                                                                      |
| 4 days before Meeting  | (01/13/2023) | (72 hours) – Local Government Code requirement for posting                                                                               |

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| 1   | 2   | 3    | 4   | 5    | 6   | 7   |
| 8   | 9   | 10   | 11  | 12   | 13  | 14  |
| 15  | 16  | 17   | 18  | 19   | 20  | 21  |
| 22  | 23  | 24   | 25  | 26   | 27  | 28  |
| 29  | 30  | 31   |     |      |     |     |

**PENDING FUTURE AGENDA ITEMS**