

September 2, 2025

Spencer Taylor, P.E.  
Project Manager  
City of Mesa  
640 N Mesa Drive  
Mesa, AZ 85201

Subject: Capacity Fees Analysis Review

Dear Mr. Taylor:

The City of Mesa, AZ (City) commissioned Black & Veatch Corporation (Black & Veatch) to conduct a review of its water and wastewater capacity fees analysis and report. To perform the review, Black & Veatch focused on the following elements:

- Legal Requirements in Arizona
- Capacity Fee Methodology
- Capacity Fee Analysis

Capacity fees are assessed on new customers to help offset capital costs associated with increasing water and wastewater system capacity. The cost of adding capacity to the systems can contribute significantly to the need for increases to user rates. Therefore, the collection of capacity fees to partially or wholly finance new customer capacity requirements can, over time, help reduce the magnitude of user rate increases that otherwise might be needed. Ideally, capacity fees should generate sufficient revenues to meet future capacity need and not burden existing users.

## Legal Requirements

### Arizona Revised Statute

Arizona Revised Statutes (A.R.S.) §§ 9-511 and -511.01 govern the imposition of water and wastewater capacity fees in Arizona. A.R.S. are statutory laws in the State of Arizona passed by State Legislature. § 9-511.01 sets forth requirements on municipal agencies for the imposition of water and wastewater rates, fees, or charges. The following requirements are pertinent to the City.

- A.1. "Prepare a written report or supply data supporting the increased rate or rate component, fee or service charge."
- A.2. "Adopt a notice of intention by motion at a regular council meeting to increase water or wastewater rates or rate components, fees or service charges...."
- E. "Rates and charges demanded or received by municipalities for water and wastewater service shall be just and reasonable."

### Legal Case Precedent

In 2017, Mountainside Mar, LLC (Mountainside) sued the City of Flagstaff, AZ for the imposition of water and wastewater capacity fees. Mountainside alleged that the fees were development fees that had not been adopted in accordance with A.R.S. § 9-463.05. After a lengthy legal proceeding, in 2022, the Arizona Court of Appeals, affirmed that "...the City also possesses the implied powers necessary to perform those functions, including to adopt and assess fees to offset costs associated with new or expanded infrastructure required by new connections to the City's water and wastewater systems. Because the City had the power under § 9-511 and § 9-511.01 to assess capacity fees...."

## Methodology

There is no single established capacity fee methodology that is both appropriate for all situations and perfectly equitable to all new customers. There are, however, various methods which are currently recognized by industry organizations such as American Water Works Association (AWWA) and Water Environment Federation (WEF). These methodologies are:

- Buy-In Method
- Incremental Cost Method
- Combined Cost Method

The City considered these methods and selected the *Incremental Cost Method* as the most appropriate. Under this methodology, capacity fees are designed to derive from new customers the marginal, or incremental cost of system expansion associated with new customer growth. In the case of the City, the capacity fee is designed to fund the expansion of system capacity for new development located in southeast portion of the City, where the existing water and wastewater systems have already reached capacity for their existing customers.

## Capacity Fee Analysis

In performing a review of the City's capacity fee, Black & Veatch focused its review on the planned Capital Improvement Program (CIP), the system capacity that will be added because of the CIP, the derivation of the service units, and the calculation of the water and wastewater capacity fees.

### Capital Improvement Program

The CIP in the analysis is identified in the City's 2025 Integrated Master Plan and Capital Improvement Program Book. Both documents provide a list and budget of rehabilitation and replacement, and growth-related CIP to be executed by the City. The projects incorporated in the analysis are for a 10-year timeframe and are growth-related projects. The budgets are continuously updated based on new engineering and construction cost estimates.

### System Capacity

The execution of the CIP will generate more water and wastewater capacity in the systems. Capacity can be determined by analyzing capacity by function (i.e. water supply, treatment, etc.), but can also be analyzed by determining the limiting fixed asset. The limiting fixed asset is basically the asset that constraints the system from being able to provide more service. The limiting assets for both water and wastewater were identified.

### Unit Cost

By simply dividing the CIP by the system capacity gives the unit cost by system. The unit cost is the amount to be recovered by each service unit.

### Service Unit

Based on actual water consumption within the City, the water and wastewater service units were defined. The service unit is typically associated with the water demand and returned wastewater flow from single-family residential household with a  $\frac{3}{4}$ " metered connection. The service unit is then multiplied by the peaking factors as water and wastewater systems are designed to meet peak demands.

### Capacity Fees

The analysis determines the capacity fees by multiplying the unit cost by the service unit for both water and wastewater. Then the capacity fees for larger sized meters based on equivalent meter ratios.

## Summary

After performing the review of the capacity fees analysis and report prepared by the City, Black & Veatch confirms that the City determined the water and wastewater capacity fees according to A.R.S. guidelines, AWWA and WEF guidance manuals and is mathematically correct. The capacity fees calculated should generate revenue to help offset CIP costs as the system expands. It is recommended that the City review the capacity fees at least every five-years to ensure that the fees continue to be appropriate.

Very truly yours,

A handwritten signature in blue ink, appearing to read 'Ann T Bui', is positioned above the printed name.

Ann T Bui  
Sr. Managing Director  
Black & Veatch Corporation



# City of Mesa

## Capacity Fees Study Report

August 2025

**Prepared by:**

**City of Mesa Water Resources Department**

**640 N. Mesa Drive**

**Mesa, Arizona 85211-1466**

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# **1.0 Executive Summary**

## **1.1 Introduction**

This Executive Summary presents an overview of the findings of the Capacity Fees Study completed by the City of Mesa (City) Water Resources Department. There are several assumptions and costs that were made to support this report, and these are subject to change. This report is provided in compliance with Arizona Revised Statutes (A.R.S.) §§ 9-511 and -511.01.

## **1.2 Background and System Information**

For over 100 years, the City of Mesa has been committed to providing safe and reliable drinking water to its customers through robust capital planning. The City's Water Resources Department currently provides water and wastewater service for a population of over 500,000 within a service area of 128 square miles. The City's water service area contains eight water pressure zones which are served by three surface water treatment plants (WTPs), Brown Road, Signal Butte, and Val Vista and numerous groundwater wells located throughout the City. The City's wastewater service area is divided into six major sewer drainage basins and served by four major water reclamation plants (WRPs), Northwest, Southeast, Greenfield, and 91st Avenue of which Greenfield and 91st Avenue are jointly owned with other Cities. Currently the City sends 100% of the reclaimed water generated at the Southeast and Greenfield WRPs to the Gila River Indian Community as part of a water exchange for Central Arizona Project surface water. Reclaimed water generated at the Northwest WRP is recharged at the Granite Reef Underground Storage Project and/or discharged to the Salt River.

## **1.3 City of Mesa Water and Wastewater Master Plans**

The City completed an Integrated Master Plan (IMP) on March 4, 2025. This IMP provides a thorough analysis of future water, wastewater and reclaimed water capacity requirements. The IMP was prepared by consultants Black & Veatch, Corporation (BV), Carollo Engineers, Inc. (Carollo), and Clear Creek. The IMP integrates the City's water resources, water, wastewater, and reclaimed water master plans through the year 2040 as a planning horizon and aligns with the City's ongoing Mesa 2050 General Plan update. The IMP is available on the City's website at <https://www.mesaaz.gov/Utilities/Water-Wastewater> as the document titled 2025 Integrated Master Plan

## 1.4 Objectives

The purpose of this report is to establish new Water and Wastewater Capacity Fees authorized by A.R.S. § 9-511.01. Capacity fees are a one-time charge for a new or upsized connection to the water and/or wastewater system. The fees are designed to recover the growth-related portion of the cost of constructing additional water and wastewater system capacity. These fees are assessed to any new customers that require a service connection or existing customers that require a larger service connection. In general, capacity fees are based on the costs of future utility infrastructure including, but not limited to, water supply facilities, treatment facilities, water reclamation facilities, pump stations, lift stations, transmission mains and sewer interceptors. Capacity fees serve as the mechanism by which new development can help fund the additional capacity required.

## 1.5 Summary of Conclusions and Recommendations

Using the calculations identified in Section 2.4, the proposed Water and Wastewater Capacity Fees are shown below:

| Meter Size | Max<br>Continuous<br>Flow (gpm) | Multiplier | Water       | Wastewater | Total       |
|------------|---------------------------------|------------|-------------|------------|-------------|
| 0.75"      | 30                              | 1.00       | \$7,719     | \$1,809    | \$9,528     |
| 1"         | 50                              | 1.67       | \$12,864    | \$3,015    | \$15,880    |
| 1.5"       | 100                             | 3.33       | \$25,729    | \$6,030    | \$31,759    |
| 2"         | 160                             | 5.33       | \$41,166    | \$9,649    | \$50,814    |
| 3"         | 320                             | 10.67      | \$82,331    | \$19,297   | \$101,629   |
| 4"         | 800                             | 26.67      | \$205,829   | \$48,243   | \$254,072   |
| 6"         | 1500                            | 50.00      | \$385,929   | \$90,456   | \$476,385   |
| 8"         | 3500                            | 116.67     | \$900,501   | \$211,065  | \$1,111,566 |
| 10"        | 5500                            | 183.33     | \$1,415,072 | \$331,673  | \$1,746,746 |

### Notes:

1. Table shows values rounded to the nearest dollar.
2. Customers with only water or wastewater service will only pay that portion of the Capacity Fee.

## **2.0 Review and Development of Capacity Fees**

### **2.1 Capacity Fees**

Capacity fees are a one-time charge for a new or upsized connection to the water and/or wastewater system. The fee is designed to recover the growth-related portion of the cost of constructing any additional water and wastewater system capacity. These fees are assessed to any new customers that require a service connection or existing customers that require a larger service connection. In general, capacity fees are based on the costs of future utility infrastructure including, but not limited to, water supply facilities, treatment facilities, water reclamation facilities, pump stations, lift stations, water transmission mains and sewer interceptors. Capacity fees serve as the mechanism by which new development can help fund the additional capacity required.

The City of Mesa (City) has historically not charged capacity fees. This report will lay out the legal framework, key assumptions and methodology used to calculate the water and wastewater capacity fees.

### **2.2 Legal Framework**

The City owns and operates water and wastewater systems, as authorized by Arizona Revised Statutes (A.R.S.) §§ 9-511 and -511.01. The City developed the proposed water and wastewater capacity fees to help offset costs associated with new and expanded infrastructure required by new or upsized connections to the City's water and wastewater systems. Based upon the statutory authority for a municipality to own and operate water and wastewater systems, including to increase water and wastewater rates, fees, or service charges, including capacity fees, under A.R.S. §§ 9-511 and 9-511.01, municipalities also have the implied powers necessary to perform those functions, including to adopt and assess fees to offset costs associated with new or expanded infrastructure required by new or upsized connections to municipal water and wastewater systems.

### **2.3 Key Assumptions**

The American Water Works Association (AWWA) and Water Environment Federation (WEF) publish industry guidelines for the development of capacity fees. The City utilized AWWA's *Principles of Water Rates, Fees, and Charges – Manual of Water Supply Practices M1* 6<sup>th</sup> edition (M1 Manual) in developing the methodology to calculate the capacity fees. In M1 Manual, Chapter VI.2 entitled "System Development Charges", it defines a capacity fee as "...a one-time charge paid by a new water system customer for system capacity. It is also assessed to existing customers

requiring increased system capacity....” M1 Manual identifies the objectives to be achieved by the capacity fee:

- Have new development pay its own way;
- Fund major system expansion;
- Minimize debt or reduce the need for future debt;
- Equitably recover capacity-related capital costs from current and future customers to achieve equity between the different generations of ratepayers (intergenerational equity);
- Maintain an appropriate level of retained earnings and cash reserves to meet other capital needs of the system; and
- Equitably reimburse the existing ratepayers for their investment in oversizing of infrastructure to accommodate future customers.

Figure VI.1-1 in M1 Manual shows a schematic of a typical water system, which separates the water system into three categories: 1. Customer Facilities, 2. Connection Facilities and 3. System Facilities.

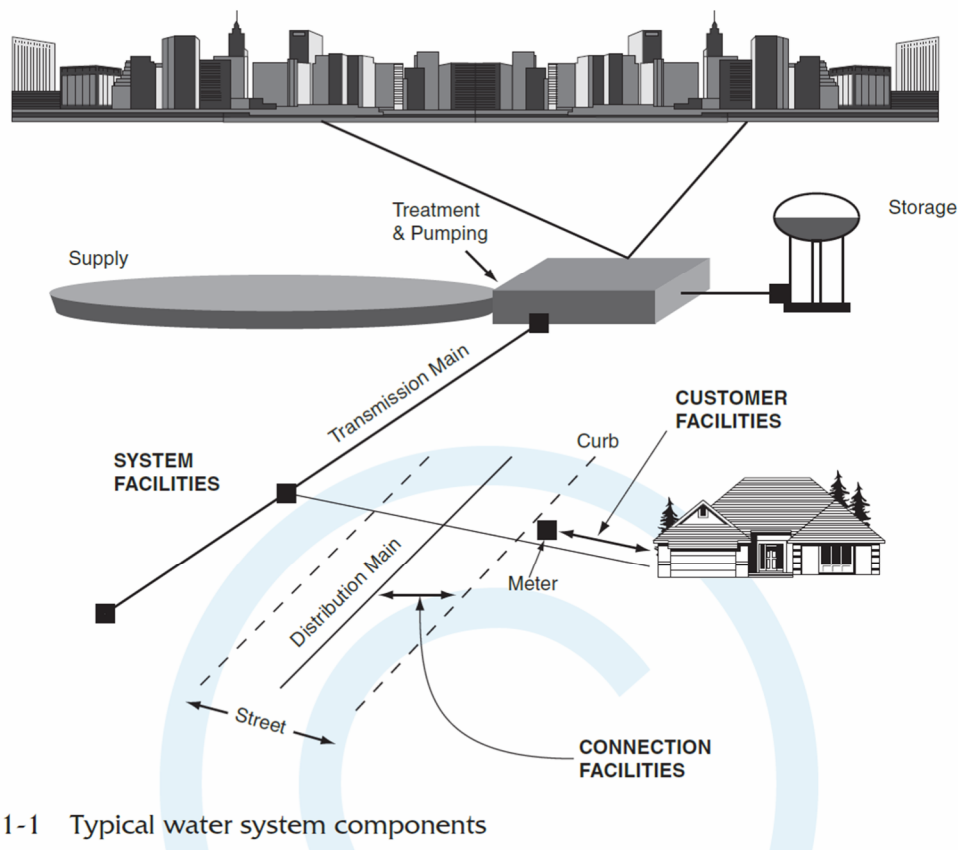


Figure VI.1-1 Typical water system components

## 1. Customer Facilities

Customer Facilities comprise the service line from the water meter up to the customer's building. The service line is owned and maintained by the customer and the customer is responsible for installing the service line. Customer Facilities are not included in the City's capacity fee analysis.

## 2. Connection Facilities

Connection Facilities are comprised of the water distribution mains and service line up to and including the water meter. The Connection Facilities are all located in either a Public Utility Easement or Right-of-Way and are owned and maintained by the City. Distribution waterlines are defined in the 2023 City of Mesa Engineering and Design Manual as being 16 inches and smaller and allow for direct metered connections. Connection Facilities are required to be installed by the developer when the streets are constructed and are not included in the capacity fee analysis. Per Mesa City Code Section 9-8-3(H):

“Water and sewer lines shall be installed in all streets adjacent to the land under development to lines and grades and of such sizes as approved by the City Engineer and in conformance with City standards. Water and sewer service lines of sizes and at locations approved by the City Engineer and in conformance with City standards shall be installed prior to paving the streets and improving the alleys. Where it is necessary to extend a water or sewer main from an existing main of adequate size to the development, the developer will be required to pay the full cost of the line extension.”

## 3. System Facilities

System Facilities are comprised of the water transmission mains (>16-inch), storage tanks, treatment plants, pump stations and groundwater well sites. System Facilities are owned, operated, maintained, and constructed by the City. These facilities are typically regional in nature as they supply larger areas of the City and are built prior to development going in. Funding the capital improvement program to construct the System Facilities are included the capacity fee analysis.

## 2.4 Methodology

Manual M1 defines three methods for calculating capacity fees:

- The *buy-in method* is based on the value of the existing system's capacity. This method is typically used when the existing system has sufficient capacity to serve new development now and into the future.

- The *incremental cost or marginal cost method* is based on the value or cost to expand the existing system's capacity. This method is typically used when the existing system has limited or no capacity to serve new development and new or incremental facilities are needed to serve new development now and into the future.
- The *combined approach* is based on a blended value of both the existing and expanded system's capacity. This method is typically used where some capacity is available in parts of the existing system (e.g., source of supply), but new or incremental capacity will need to be built in other parts (e.g., treatment plant) to serve new development at some point in the future.

The City has chosen to use the *incremental cost method* for calculating the capacity fees. Per the M1 Manual, "Generally, this method is considered most appropriate when the existing system does not have sufficient available capacity, and a significant portion of the capacity required to serve new customers must be provided by the construction of new facilities. When using this method, it is important to have a capital improvement plan (CIP) that identifies the costs associated with new capacity, the timing of the expenditure, and the proposed source or sources of funds for those capital improvements."

The incremental cost method is an appropriate method for the City's capacity fees calculation as the majority of the remaining capacity growth projects are in the City's southeast, where the existing water and wastewater system are at capacity. To serve future customers, the water treatment and water reclamation plants need to be expanded and additional groundwater well sites, lift stations and transmission mains will be needed to distribute water and collect wastewater to the undeveloped portion of the City.

## 2.5 Capacity Fee Analysis

### Capital Improvement Plan

The City retained Black & Veatch, Corporation (BV), Carollo Engineers, Inc. (Carollo), and Clear Creek to update and integrate the City's water resources, water, wastewater, and reclaimed water master plans through the year 2040 planning horizon to align with the City's ongoing Mesa 2050 General Plan update. The Integrated Master Plan (IMP) combines the four components into one holistic, cohesive master plan that will serve as the City's roadmap for future infrastructure improvements for the Water Resources Department. The IMP was completed on March 4, 2025, and was used as the basis for this capacity fee analysis.

The IMP laid out the proposed projects that would be needed to meet future water, wastewater and reclaimed water demands through buildout. Table 7-3, Water Capital Improvement Projects and Table 7-5, Wastewater Capital Improvement Projects in the IMP provide a brief description of the proposed future improvements required to provide service to future customers. In addition, the City's CIP Program Book which examines the next five-years of capital projects is located at <https://www.mesaaz.gov/Government/Capital-Improvement-Program>.

The costs associated with "System Facilities" growth-related projects for the water and wastewater systems are summarized by function in Tables 1 and 2. A detailed breakdown of these projects is provided in Appendix A of this report. The projects listed are to be executed in the next 10-years.

*Table 1 – Water Capacity Projects*

|                        |           |                    |
|------------------------|-----------|--------------------|
| Water Treatment Plants | \$        | 200,703,730        |
| Pump Stations          | \$        | 16,890,013         |
| Pipelines              | \$        | 13,765,000         |
| Groundwater Wells      | \$        | 89,121,111         |
| Misc - Master Planning | \$        | 355,342            |
| <b>Water Total</b>     | <b>\$</b> | <b>320,835,196</b> |

*Table 2 – Wastewater Capacity Projects*

|                         |           |                   |
|-------------------------|-----------|-------------------|
| Lift Stations           | \$        | 7,226,205         |
| Pipelines               | \$        | 67,793,535        |
| Misc - Master Planning  | \$        | 179,552           |
| <b>Wastewater Total</b> | <b>\$</b> | <b>75,199,292</b> |

## System Capacity

The incremental method is designed to equitably distribute the capital costs required to add system capacity for new customers based on the new customer's usage as a portion of the added capacity. The City's total system capacity (across the entire service area) is used for the capacity fee analysis. There are various types of projects that will add capacity to the water system such as a water treatment plant expansion, pump stations, pipelines, and groundwater wells. The limiting factor for the water system is the additional capacity at the Signal Butte Water Treatment Plant (WTP). The Signal Butte WTP is being expanded from 24 to 48 million gallons per day (MGD). In the 10-year planning period for this analysis, it is expected that the additional capacity needed to support expected growth is 16 MGD. Therefore, 16 MGD was the incremental system capacity used to calculate the water capacity fee.

There are various types of projects that will add capacity to the wastewater system such as a water reclamation plant expansion, lift stations, and pipelines. The limiting factor for the wastewater system is a new 36-inch sewer interceptor pipeline at Pecos Road. The pipeline is the main trunk line that transports wastewater flow to the existing WRP. The capacity of this pipeline is 8.5 MGD and that is the incremental capacity utilized to calculate the wastewater capacity fee.

## Service Units

The “base” meter size for the City is a ¾-inch meter, which is the smallest meter size available. Water treatment plants are sized to meet the maximum daily demand, which typically occurs during the hottest summer months. The Service Unit is calculated using the maximum daily demand for the base meter size. This is calculated by taking the annual demand from these customers which was 12 billion gallons and dividing it by the number of ¾” meters (128,873 meters), which equates to 93,665 gallons per year or 257 gallons per day. Per the IMP, the max day demand factor is 1.5, so the maximum daily demand for the average ¾-inch meter customer is 385 gallons per day.

*Table 3 – Water Service Unit*

| <b>Water Service Unit</b>                                          |                |
|--------------------------------------------------------------------|----------------|
| Number of 3/4" Meters                                              | 128,873        |
| Annual Water Demand for all 3/4" Meter Customers (gallons/year)    | 12,070,875,000 |
| Annual Water Demand per Average 3/4" Meter Customer (gallons/year) | 93,665         |
| Average Daily Water Demand per 3/4" Meter Customer (gpd)           | 257            |
| Average Day Demand to Max Day Demand Peaking Factor                | 1.50           |
| <b>Max Day Water Demand per 3/4" Meter (gpd)</b>                   | <b>385</b>     |

There are no wastewater meters to measure sewer flows discharged to the wastewater system. Therefore, the City uses the water demand for the three lowest winter months to compute the sewer flow. During the winter months, outdoor water usage is assumed to be minimal. The sewer flows are calculated by taking the average of winter water consumption which is based upon the water deliveries during December, January, February, and March billing cycles. The average is computed at the end of March each year on the three lowest readings of this four-month period with the assumption that 90 percent of the average winter water deliveries are discharged to the wastewater system.

Table 4 – Wastewater Service Unit

| <b>Wastewater Service Unit</b>                                                   |             |
|----------------------------------------------------------------------------------|-------------|
| Number of 3/4" Meters                                                            | 128,873     |
| 90% of monthly average of 3 Lowest Winter Months Meter Demand<br>(gallons/month) | 720,834,000 |
| Average Monthly Wastewater flow per 3/4" Meter Customer<br>(gallons/month)       | 5,593       |
| Average Daily Wastewater flow per 3/4" Meter Customer (gpd)                      | 186         |
| Average Day to Max Day Wastewater Flow Factor                                    | 1.10        |
| <b>Max Day Wastewater Flow per 3/4" Meter (gpd)</b>                              | <b>205</b>  |

### Capacity Fees

The capacity fees were then calculated by dividing the capital costs identified in the CIP for all growth-related projects by the system capacity that is projected to be added to the water and wastewater systems. The unit cost is then multiplied by the service unit to obtain the ¾" equivalent meter fee.

$$\text{Capacity Cost} \div \text{Incremental System Capacity} = \text{Unit Cost}$$

$$\text{Unit Cost} \times \text{Service Unit} = \frac{3}{4}" \text{ Equivalent Meter Fee}$$

*Table 5 – Water Capacity Fee Calculation*

| <b>Water Capacity Fee Calculation</b> |                |
|---------------------------------------|----------------|
| Capacity Cost                         | \$320,835,196  |
| System Capacity (gpd)                 | 16,000,000     |
| <b>Unit Cost (\$/gpd)</b>             | <b>\$20.05</b> |
| Service Unit (gpd)                    | 385            |
| 3/4" Equivalent Meter Fee             | <b>\$7,719</b> |

*Table 6 – Wastewater Capacity Fee Calculation*

| <b>Wastewater Capacity Fee Calculation</b> |                |
|--------------------------------------------|----------------|
| Capacity Cost                              | \$75,199,292   |
| System Capacity (gpd)                      | 8,524,900      |
| <b>Unit Cost (\$/gpd)</b>                  | <b>\$8.82</b>  |
| Service Unit (gpd)                         | 205            |
| 3/4" Equivalent Meter Fee                  | <b>\$1,809</b> |

**Notes:**

1. Table shows service unit values rounded to the nearest gallon.
2. Table shows fee values rounded to the nearest dollar.

Different customers will have different capacity demands on the system. Meter size is a common way for administering capacity fees. The base meter size for the City is ¾-inch meter and an equivalent meter ratio has been developed to compare larger meters to the City's base meter size. Meter equivalency is then established based on the maximum continuous flow for each meter size. A ¾ inch meter has a max continuous flow of 30 gallons per minute (GPM). Using the max continuous flow by meter size, a multiplier was then developed to calculate the number of equivalent ¾ inch meters for each different size of meter as shown in Table 7.

Table 7 - Meter Size

| Meter Size | Max Continuous Flow <sup>1,2</sup> | Multiplier |
|------------|------------------------------------|------------|
| 0.75"      | 30                                 | 1.00       |
| 1"         | 50                                 | 1.67       |
| 1.5"       | 100                                | 3.33       |
| 2"         | 160                                | 5.33       |
| 3"         | 320                                | 10.67      |
| 4"         | 800                                | 26.67      |
| 6"         | 1,500                              | 50.00      |
| 8"         | 3,500                              | 116.67     |
| 10"        | 5,500                              | 183.33     |

**Notes:**

1. Max continuous flow for 0.75 to 3-inch meters per Table VI.2-5 Meter equivalencies based on meter capacity from AWWA M1 Manual.
2. Max continuous flow for 4 to 10-inch meters per City of Mesa Standard Details M-27 & M-28.

## 2.6 Results

Using the calculations identified in the sections above, the proposed Water and Wastewater Capacity Fees are shown in Table 8 below:

Table 8 – Capacity Fee Table

| Meter Size | Max Continuous Flow (gpm) | Multiplier | Water       | Wastewater | Total       |
|------------|---------------------------|------------|-------------|------------|-------------|
| 0.75"      | 30                        | 1.00       | \$7,719     | \$1,809    | \$9,528     |
| 1"         | 50                        | 1.67       | \$12,864    | \$3,015    | \$15,880    |
| 1.5"       | 100                       | 3.33       | \$25,729    | \$6,030    | \$31,759    |
| 2"         | 160                       | 5.33       | \$41,166    | \$9,649    | \$50,814    |
| 3"         | 320                       | 10.67      | \$82,331    | \$19,297   | \$101,629   |
| 4"         | 800                       | 26.67      | \$205,829   | \$48,243   | \$254,072   |
| 6"         | 1,500                     | 50.00      | \$385,929   | \$90,456   | \$476,385   |
| 8"         | 3,500                     | 116.67     | \$900,501   | \$211,065  | \$1,111,566 |
| 10"        | 5,500                     | 183.33     | \$1,415,072 | \$331,673  | \$1,746,746 |

As part of the analysis, a comparison to capacity fees charged by neighboring cities by meter size for new customers was performed. The City currently has no such fee. The proposed fee for the City would be the in the middle of the pack.

Table 9 – Fee Comparison (based on  $\frac{3}{4}$ " meter)

|                          | Water    | Wastewater | Total    |
|--------------------------|----------|------------|----------|
| Phoenix - Northwest Area | \$20,442 | \$8,951    | \$29,393 |
| Gilbert - GWRP Area      | \$14,136 | \$4,467    | \$18,603 |
| Phoenix - Estrella Area  | \$8,099  | \$6,599    | \$14,698 |
| Chandler                 | \$5,331  | \$8,984    | \$14,315 |
| Flagstaff                | \$8,146  | \$4,086    | \$12,232 |
| Proposed Mesa            | \$7,719  | \$1,809    | \$9,528  |
| Scottsdale               | \$5,003  | \$2,696    | \$7,699  |
| Glendale                 | \$3,330  | \$3,795    | \$7,125  |
| Tempe                    | \$2,472  | \$1,994    | \$4,466  |
| Existing Mesa            | \$0      | \$0        | \$0      |

## 2.7 Scenario Analysis

Several other alternatives to the capacity fees were analyzed to fund the required infrastructure to add capacity to the system for new customers. One alternative would be to not change anything. Without establishing a new Water and Wastewater Capacity Fee, the costs of adding additional water and wastewater capacity would be paid for by current customers through the existing rates. Without dedicated funding for adding additional capacity, the City's ability to complete necessary lifecycle projects may be reduced or limited due to competition for available funding. Another alternative would be to continue to fund the necessary lifecycle projects and raise existing water and wastewater utility rates higher than anticipated, to pay for projects that add additional capacity for new customers. Neither of these alternatives is recommended as they place a burden on existing customers by either delaying needed lifecycle replacement projects or raising rates higher than expected.

The City intends to use the revenue from the capacity fees solely for constructing projects that add capacity to the water and wastewater system. The funds from this fee will go directly to the Utility Capacity Construction Fund where the funds will be held in reserve to fund these projects as they are constructed or pay off debt if the projects are constructed prior to receiving the funds.

**Appendix A**

**List of Capacity Project**

| <b>Water Project List</b> |                  |                                                                             |                       |
|---------------------------|------------------|-----------------------------------------------------------------------------|-----------------------|
| <b>Type of Project</b>    | <b>Program #</b> | <b>Project Description</b>                                                  | <b>Total Cost</b>     |
| Water Treatment Plants    | CP0372CAP        | Signal Butte WTP Phase II expansion to 48 MGD plus Second 8.75 MG Reservoir | \$ 200,703,730        |
| Pipelines                 | CP1050EM01       | EMIC 36" Potable Transmission Main Val Vista – McKellips to Brown           | \$ 13,765,000         |
| Booster & PRV Stations    | CP0830PS08       | TS2 Pump, Piping, and Electrical Upgrades                                   | \$ 7,827,014          |
| Booster & PRV Stations    | CP0830PS12       | Transfer Station 1 Upgrades                                                 | \$ 9,062,999          |
| Wells                     | CP0836LA03       | Land Purchases for 13 Well Sites                                            | \$ 2,480,725          |
| Wells                     | CP0836WD13       | DW28 - Drill Well                                                           | \$ 2,700,543          |
| Wells                     | CP0836WD14       | DW23 - Drill Well                                                           | \$ 2,919,740          |
| Wells                     | CP0836WD15       | DW30 - Drill Well                                                           | \$ 2,156,620          |
| Wells                     | CP0836WD17       | DW33 - Drill Well                                                           | \$ 2,796,536          |
| Wells                     | CP0836WD16       | DW31 - Drill Well                                                           | \$ 2,700,543          |
| Wells                     | CP0836WD18       | DW32 - Drill Well                                                           | \$ 2,700,543          |
| Wells                     | CP0836WD19       | DW34 - Drill Well                                                           | \$ 2,700,543          |
| Wells                     | CP0836WE09       | DW24 - Equip Well                                                           | \$ 5,343,575          |
| Wells                     | CP0836WE11       | DW25 - Equip Well                                                           | \$ 5,450,130          |
| Wells                     | CP0836WE12       | DW26 - Equip Well                                                           | \$ 5,353,070          |
| Wells                     | CP0836WE13       | DW28 - Equip Well                                                           | \$ 5,714,935          |
| Wells                     | CP0836WE14       | DW23 - Equip Well                                                           | \$ 5,578,840          |
| Wells                     | CP0836WE15       | DW30 - Equip Well                                                           | \$ 5,315,090          |
| Wells                     | CP0836WE17       | DW33 - Equip Well                                                           | \$ 5,419,324          |
| Wells                     | CP0648CL01       | DW24 - 16" Well Collection Line                                             | \$ 2,768,742          |
| Wells                     | CP0648CL02       | DW27 - 20" Well Collection Line                                             | \$ 879,340            |
| Wells                     | CP0648CL04       | DW25 - 16" Well Collection Line                                             | \$ 4,603,999          |
| Wells                     | CP0648CL05       | DW26 - 16" Well Collection Line                                             | \$ 7,012,501          |
| Wells                     | CP0648CL06       | DW28 - 12" Well Collection Line                                             | \$ 3,881,366          |
| Wells                     | CP0648CL07       | DW23 - 12" Well Collection Line                                             | \$ 582,998            |
| Wells                     | CP0648CL09       | DW30 - 16" Well Collection Line                                             | \$ 7,182,313          |
| Wells                     | CP0648CL11       | DW33 - 12" Well Collection Line                                             | \$ 2,879,095          |
| Misc - Master Planning    | CP0899MP01       | Integrated Water Master Plan                                                | \$ 355,342            |
|                           |                  |                                                                             | <b>\$ 320,835,196</b> |

| <b>Wastewater Project List</b> |                  |                                                                                                    |                      |
|--------------------------------|------------------|----------------------------------------------------------------------------------------------------|----------------------|
| <b>Type of Project</b>         | <b>Program #</b> | <b>Project Description</b>                                                                         | <b>Total Cost</b>    |
| Pipelines                      | CP1185NS03       | Rittenhouse Sewer Phase 2 - Power Road to EMI (Pecos Road Sewer)                                   | \$ 31,682,465        |
| Pipelines                      | CP1185NS05       | 18" Warner Road Sewer; Power to Ellsworth Rd.                                                      | \$ 702,300           |
| Pipelines                      | CP1185NS08       | Pecos Rd. Relief Sewer; Ellsworth to Power                                                         | \$ 15,062,135        |
|                                |                  | 15" McKellips Rd Sewer from Gilbert to Stapley & 15" Stapley Rd Sewer from McKellips to McClean Rd | \$ 15,544,370        |
| Pipelines                      | CP0619NS12       | 12" Thomas Road Sewer - 56th St. to N. Higley LS                                                   | \$ 4,802,265         |
| Pipelines                      | CP0619NS15       | LS                                                                                                 | \$ 4,802,265         |
| Lift Stations                  | CP0617LS06       | N. Higley Rd. Lift Station and Force Main                                                          | \$ 7,226,205         |
| Misc - Master Planning         | CP0899MP02       | Integrated Wastewater/Water Master Plan                                                            | \$ 179,552           |
|                                |                  |                                                                                                    | <b>\$ 75,199,292</b> |

**Notes:**

1. Total project costs as of August 2025.

## **Appendix B**

### **Projects Cashflow**

# Water Growth CIP Cashflow

| Program      | Project Description                                                         | Sum of Project<br>Cost Estimate | Sum of Prior<br>Years<br>Expenditures | Sum of<br>FY25/26    | Sum of<br>FY26/27    | Sum of<br>FY27/28    | Sum of<br>FY28/29    | Sum of<br>FY29/30    | Sum of<br>FY30/31   | Sum of<br>FY31/32   | Sum of<br>FY32/33   | Sum of<br>FY33/34 | Sum of<br>FY34/35 |
|--------------|-----------------------------------------------------------------------------|---------------------------------|---------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|---------------------|-------------------|-------------------|
| CP0372CAP    | Signal Butte WTP Phase II expansion to 48 MGD plus Second 8.75 MG Reservoir | \$ 200,703,730                  | \$ 74,375,391                         | \$ 69,431,516        | \$ 55,570,665        | \$ 1,326,158         | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP1050EM01   | EMIC 36" Potable Transmission Main Val Vista – McKellips to Brown           | \$ 13,765,000                   | \$ 382,222                            | \$ -                 | \$ -                 | \$ 464,268           | \$ 5,375,788         | \$ 6,785,821         | \$ 756,901          | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0830PS08   | TS2 Pump, Piping, and Electrical Upgrades                                   | \$ 7,827,014                    | \$ 6,416,970                          | \$ 1,410,044         | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0830PS12   | Transfer Station 1 Upgrades                                                 | \$ 9,062,999                    | \$ 108,277                            | \$ -                 | \$ -                 | \$ -                 | \$ 146,924           | \$ 2,220,448         | \$ 5,563,092        | \$ 1,024,258        | \$ -                | \$ -              | \$ -              |
| CP0836LA03   | Land Purchases for 13 Well Sites                                            | \$ 2,480,725                    | \$ 1,690,569                          | \$ 365,940           | \$ 424,216           | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0836WD13   | DW28 - Drill Well                                                           | \$ 2,700,543                    | \$ 18,556                             | \$ 2,438,170         | \$ 243,817           | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0836WD14   | DW23 - Drill Well                                                           | \$ 2,919,740                    | \$ 36,468                             | \$ 1,729,963         | \$ 1,153,309         | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0836WD15   | DW30 - Drill Well                                                           | \$ 2,156,620                    | \$ 2,156,620                          | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0836WD16   | DW31 - Drill Well                                                           | \$ 2,700,543                    | \$ 986                                | \$ 2,454,143         | \$ 245,414           | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0836WD17   | DW33 - Drill Well                                                           | \$ 2,796,536                    | \$ 536,804                            | \$ 1,355,839         | \$ 903,893           | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0836WD18   | DW32 - Drill Well                                                           | \$ 2,700,543                    | \$ 538                                | \$ 2,454,550         | \$ 245,455           | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0836WD19   | DW34 - Drill Well                                                           | \$ 2,700,543                    | \$ 573                                | \$ 2,454,518         | \$ 245,452           | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0836WE09   | DW24 - Equip Well                                                           | \$ 5,343,575                    | \$ 185,425                            | \$ 370,676           | \$ 2,854,207         | \$ 1,793,623         | \$ 139,644           | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0836WE11   | DW25 - Equip Well                                                           | \$ 5,450,130                    | \$ 315,034                            | \$ 227,778           | \$ 2,339,771         | \$ 2,339,771         | \$ 227,776           | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0836WE12   | DW26 - Equip Well                                                           | \$ 5,353,070                    | \$ 201,293                            | \$ 178,722           | \$ 2,069,441         | \$ 2,612,240         | \$ 291,374           | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0836WE13   | DW28 - Equip Well                                                           | \$ 5,714,935                    | \$ 117,579                            | \$ 264,773           | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ 184,994          | \$ 2,142,070        | \$ 2,703,920        | \$ 301,599        | \$ -              |
| CP0836WE14   | DW23 - Equip Well                                                           | \$ 5,578,840                    | \$ 155,338                            | \$ 110,767           | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ 184,306          | \$ 2,134,096        | \$ 2,693,855        | \$ 300,478        | \$ -              |
| CP0836WE15   | DW30 - Equip Well                                                           | \$ 5,315,090                    | \$ 329,936                            | \$ 85,703            | \$ 169,969           | \$ 1,968,082         | \$ 2,484,297         | \$ 277,103           | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0836WE17   | DW33 - Equip Well                                                           | \$ 5,419,324                    | \$ 45,933                             | \$ 43,763            | \$ 184,892           | \$ 2,140,882         | \$ 2,702,422         | \$ 301,432           | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0648CL01   | DW24 - 16" Well Collection Line                                             | \$ 2,768,742                    | \$ 69,046                             | \$ 245,427           | \$ 2,208,842         | \$ 245,427           | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0648CL02   | DW27 - 16" Well Collection Line                                             | \$ 879,340                      | \$ 6,681                              | \$ 79,333            | \$ 713,993           | \$ 79,333            | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0648CL04   | DW25 - 16" Well Collection Line                                             | \$ 4,603,999                    | \$ 72,992                             | \$ 411,909           | \$ 3,707,188         | \$ 411,910           | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0648CL05   | DW26 - 16" Well Collection Line                                             | \$ 7,012,501                    | \$ 56,241                             | \$ 78,973            | \$ 625,208           | \$ 5,626,871         | \$ 625,208           | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0648CL06   | DW28 - 12" Well Collection Line                                             | \$ 3,881,366                    | \$ 136,875                            | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ 340,408          | \$ 3,063,675        | \$ 340,408          | \$ -              | \$ -              |
| CP0648CL07   | DW23 - 12" Well Collection Line                                             | \$ 582,998                      | \$ -                                  | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ 53,000           | \$ 529,998          | \$ -              | \$ -              |
| CP0648CL09   | DW30 - 16" Well Collection Line                                             | \$ 7,182,313                    | \$ -                                  | \$ 38,000            | \$ 218,998           | \$ 5,208,873         | \$ 1,716,442         | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0648CL11   | DW33 - 12" Well Collection Line                                             | \$ 2,879,095                    | \$ -                                  | \$ -                 | \$ -                 | \$ 88,254            | \$ 2,099,129         | \$ 691,712           | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| CP0899MP01   | Integrated Water Master Plan                                                | \$ 355,342                      | \$ 316,254                            | \$ 39,088            | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              |
| <b>Total</b> |                                                                             | <b>\$ 320,835,196</b>           | <b>\$ 87,732,601</b>                  | <b>\$ 86,269,595</b> | <b>\$ 74,124,730</b> | <b>\$ 24,305,692</b> | <b>\$ 15,809,004</b> | <b>\$ 10,276,516</b> | <b>\$ 7,029,701</b> | <b>\$ 8,417,099</b> | <b>\$ 6,268,181</b> | <b>\$ 602,077</b> | <b>\$ -</b>       |

## Wastewater Growth CIP Cashflow

| Program      | Project Description                                                                                | Sum of<br>Project Cost<br>Estimate | Sum of Prior<br>Years<br>Expenditures | Sum of<br>FY25/26    | Sum of<br>FY26/27    | Sum of<br>FY27/28    | Sum of<br>FY28/29    | Sum of<br>FY29/30   | Sum of<br>FY30/31 | Sum of<br>FY31/32 | Sum of<br>FY32/33 | Sum of<br>FY33/34 | Sum of<br>FY34/35 |
|--------------|----------------------------------------------------------------------------------------------------|------------------------------------|---------------------------------------|----------------------|----------------------|----------------------|----------------------|---------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| CP1185NS03   | Rittenhouse Sewer Phase 2 - Power Road to EMI (Pecos Road Sewer)                                   | \$ 31,682,465                      | \$ 460,180                            | \$ 282,123           | \$ 3,333,987         | \$ 14,775,303        | \$ 10,807,519        | \$ 2,023,352        | \$ -              | \$ -              | \$ -              | \$ -              | \$ -              |
| CP1185NS05   | 18" Warner Road Sewer; Power to Ellsworth Rd.                                                      | \$ 702,300                         | \$ -                                  | \$ -                 | \$ -                 | \$ -                 | \$ 63,300            | \$ 639,000          | \$ -              | \$ -              | \$ -              | \$ -              | \$ -              |
| CP1185NS08   | Pecos Rd. Relief Sewer; Ellsworth to Power                                                         | \$ 15,062,135                      | \$ 410,580                            | \$ 1,445,120         | \$ 8,948,339         | \$ 3,521,366         | \$ 736,730           | \$ -                | \$ -              | \$ -              | \$ -              | \$ -              | \$ -              |
| CP0619NS12   | 15" McKellips Rd Sewer from Gilbert to Stapley & 15" Stapley Rd Sewer from McKellips to McClean Rd | \$ 15,544,370                      | \$ 2,691,573                          | \$ 9,463,525         | \$ 3,389,272         | \$ -                 | \$ -                 | \$ -                | \$ -              | \$ -              | \$ -              | \$ -              | \$ -              |
| CP0619NS15   | 12" Thomas Road Sewer - 56th St. to N. Higley LS                                                   | \$ 4,802,265                       | \$ 330,910                            | \$ 1,983,062         | \$ 2,488,293         | \$ -                 | \$ -                 | \$ -                | \$ -              | \$ -              | \$ -              | \$ -              | \$ -              |
| CP0617LS06   | N. Higley Rd. Lift Station and Force Main                                                          | \$ 7,226,205                       | \$ 579,229                            | \$ 954,344           | \$ 3,165,000         | \$ 2,527,632         | \$ -                 | \$ -                | \$ -              | \$ -              | \$ -              | \$ -              | \$ -              |
| CP0899MP02   | Integrated Wastewater/Water Master Plan                                                            | \$ 179,552                         | \$ 179,552                            | \$ -                 | \$ -                 | \$ -                 | \$ -                 | \$ -                | \$ -              | \$ -              | \$ -              | \$ -              | \$ -              |
| <b>Total</b> |                                                                                                    | <b>\$ 75,199,292</b>               | <b>\$ 4,652,023</b>                   | <b>\$ 14,128,174</b> | <b>\$ 21,324,891</b> | <b>\$ 20,824,302</b> | <b>\$ 11,607,549</b> | <b>\$ 2,662,352</b> | <b>\$ -</b>       | <b>\$ -</b>       | <b>\$ -</b>       | <b>\$ -</b>       | <b>\$ -</b>       |

## **Appendix C**

### **Referenced Reports**

- 2025 Integrated Master Plan <https://www.mesaaz.gov/Utilities/Water-Wastewater>
- Capital Improvement Program Book [Capital Improvement Program - City of Mesa](#)