

Water Supply Fee Report and Policy Recommendations

Carefree Water Company – FY 22-23

PURPOSE

This report presents recommendations to implement a one-time “Water Supply Fee” for new development projects within the service area of the Carefree Water Company. The purpose of a Water Supply Fee is two-fold:

- 1) Collect from new development projects their reasonable share of costs already expended for securing the water supplies/water rights.
- 2) Provide the Water Company a mechanism to facilitate and fund the acquisition of new water supplies.

BACKGROUND AND HISTORY

A significant amount of planning and capital expenditures have been committed to assure that Carefree has an adequate supply of water into the future. Our existing customer base has fully paid for these efforts.

The current drought situation within the western United States and particularly the desert southwest has highlighted the fact that our water supplies and water rights are limited resources and that even these resources could be curtailed in times of drought.

In order for Carefree to have an adequate supply of water into the future, we must manage and plan our finite water resources today and balance those resources with the need for reasonable growth, redevelopment, and revitalization.

CURRENT SUPPLY SITUATION

The Carefree Water Company has secured the following water supplies:

Water Supply	Year	Amount [Acre Feet (AF)/yr]
CAP M&I (Original Allocation)	1990	400
CAP M&I (BHP Reallocation)	2001	900
CAP NIA (60% Availability)	2021	112
CAP M&I (Cave Creek Transfer)	Pending	378
Total		1790

The Carefree Water Company also has the right to pump groundwater within the Carefree Subbasin which is part of the East Salt River Valley aquifer. Although we exercise this right every year, the Arizona Department of Water Resources does not consider this groundwater resource as an “assured supply” that is continually available for the next 100-years and therefore we cannot utilize our groundwater resources to support new subdivision development within the Carefree community. Subdivision development is regulated by the ADWR and must obtain a “Certificate of Assured Water Supply” in order to be approved for development. Recent dealings with ADWR have indicated that currently only Carefree’s CAP M&I allocations can be utilized to demonstrate water availability to meet our existing demand and future demand for assured water supply purposes.

FUTURE SUPPLY SITUATION

For purposes of this analysis, simplifying assumptions have been made in order to generate a reasonable Water Supply Fee until additional details on the amount and cost of future supplies are obtained. These assumptions are conservatively low. For example, the future water supply that has been selected for this analysis is new Bartlett Dam water rights delivered to the CAP canal through the future Salt River/CAP Interconnection Facility (SCIF). This would allow the delivery of Bartlett Dam water to one of our neighboring communities that we have Treatment and Transportation Agreements with. Although this appears to be a reasonable future water resource from a cost perspective, there is no guarantee that either one of these facilities will be constructed and that water supplies will be available. Therefore other more expensive alternatives may need to be implemented.

A Bartlett/SCIF alternative at 300 AF/yr of water supply has been chosen as the future water supply alternative because it produces a reasonably low future water supply cost alternative at \$3,900/AF. For comparison purposes, Queen Creek is currently working on a water supply alternative that acquires Harquahala Valley groundwater rights that is incentivized at a cost \$7,000/AF. Future similar water supply alternatives are anticipated to cost \$10,000/AF.

Future build-out projections, including revitalization, need to be studied in order to determine the exact amount of additional future water rights that will be needed for Carefree. Because of this uncertainty, a sensitivity analysis was run on the Bartlett/SCIF alternative for two smaller quantities of future water supply acquisitions; 200 AF and 100 AF. This resulted in lowering the calculated Water Supply Fee by only 3 and 7% respectively. Given that smaller water rights acquisitions become more difficult, less viable, and more costly on a per AF basis, the 300 AF option appears to be a reasonable target until future information determines that less future water supply is needed and that a smaller acquisition amount is feasible.

COST OF CURRENT AND FUTURE SUPPLIES

Appendix A details the value/cost of various water rights in the Carefree portfolio. Generally, existing and anticipated CAP M&I water rights are valued at approximately \$2,000/AF. The full cost of CAP NIA water is anticipated to be \$3,250/AF, acknowledging the fact that this supply requires additional firming into the future for times of shortage when direct deliveries of this supply from the CAP Canal are not available (approximately 40% of the time). Bartlett Dam/SCIF water is calculated to cost \$3,900/AF as a future water supply.

WATER SUPPLY FEE

Appendix A also contains the methodology and calculation for a Water Supply Fee of \$2,890/AF. The Policy Statement below provides guidance on how this fee would be applied.

POLICY STATEMENTS AND ADMINISTRATIVE GUIDANCE

- 1) All single-family residential units (SFRs) are assumed to require 0.5 AF/yr of water supply/water rights, setting the Water Supply Fee at \$1,445 per SFR dwelling unit.
- 2) All multi-family residential units (MFRs) are assumed to require 0.25 AF/yr of water supply/water rights, setting the Water Supply Fee at \$722.50 per MFR dwelling unit.
- 3) The Water Supply Fee for all other future water uses (commercial, irrigation, subdivision common areas including pools and recreational facilities, etc.) shall utilize the fee amount of \$2,890/AF multiplied by a calculated annual water demand. The calculated annual water demand shall be reviewed and approved by the Carefree Water Company. Carefree Water Company staff shall develop and implement future policies and procedures for the calculation of annual water demand calculations to ensure consistency and reasonableness.
- 4) Any future water use and proposed project that has an annual water demand greater than 15 AF is deemed to have a significant impact on Carefree's existing water resources and may be required to provide a viable source of water that is physically available to the Carefree Water Company in lieu of payment of the Water Supply Fee. Proposed projects meeting this criterion will be reviewed on a case-by-case basis in consultation with the Town of Carefree considering the nature of the development, the volume of annual water needed, and best interest of the Town of Carefree and Carefree Water Company.
- 5) It is the intent of this policy to protect the Carefree/Cave Creek Groundwater Subbasin and to that extent, any water resource that would require direct or indirect use of groundwater within the Subbasin would not qualify as a viable source of water.
- 6) Redevelopment/revitalization projects shall qualify for a reasonable "credit" for existing annual water demand based on historic water use at a property. This historic annual water use shall be reviewed and approved by the Carefree Water Company and is exempt from the Water Supply Fee. The Water Supply Fee does apply to all newly generated annual water demand.
- 7) Rebuilding/refurbishing existing SFRs and MFRs are exempt from Water Supply Fees as long as the usage on the property remains SFR or MFR, even if characteristics change (i.e. total square footage changes, number of water fixtures changes, etc.).
- 8) Any land division that generates a new developable lot will require a Water Supply Fee at the time of development.
- 9) Water Supply Fees can be included/acknowledged in negotiated Development Agreements.
- 10) Water Supply Fees cannot be "prepaid". Water supply Fees may only be paid at the time of development/redevelopment permit issuance.
- 11) Water Supply Fees once paid, are non-refundable.

**APPENDIX A
COST OF CURRENT WATER SUPPLIES**

Original CAP M&I Allocation and Cave Creek Transfer – 778 AF

Basis of water supply valuation

- CAP M&I Capital Charges (paid regardless of water usage) – 1993 thru 2022
 - Time Value of Money @ 5%
 - 2022 Value - **\$2,064.42/AF**

Supplemental CAP M&I Allocation (BHP Copper) – 900 AF

Basis of water supply valuation

- Upfront Cost - \$329,389.15 /900 AF = \$365.99/AF
 - Time Value of Money @ 5% - 2001 thru 2022
 - 2022 Value - \$1,019.63/AF
- CAP M&I Capital Charges (paid regardless of water usage) – 2001 thru 2022
 - Time Value of Money @ 5%
 - 2022 Value - \$960.30/AF
- Total = \$1,019.63/AF + \$960.30/AF = **\$1,979.93/AF**

Supplemental CAP NIA Allocation – 112 AF

Basis of water supply valuation

- Upfront Cost - \$219,688.00 /112 AF = \$1,961.50/AF
- 60% Availability = \$1,961.50/AF/0.6 = **\$3,269.17/AF**
 - (Assumed to be needed to firm-up supply, e.g. recharge, supplemental supply, etc.)

Future Allocations – Bartlett Dam Water & Salt River/CAP Interconnect Facility (SCIF) - 300 AF

Basis of water supply valuation

- Participation - \$120,000/300 AF = \$400/AF
- Bartlett Dam Water Estimate = \$2,500.00/AF
- SCIF Estimate = \$1,000/AF
- Total = \$400/AF + \$2,500.00/AF + \$1,000/AF = **\$3,900/AF**

Cost Allocation – Future Development and Redevelopment

Assumptions

- Current potable demand is 1,300 AF/yr (including Acquisition Area)
- Current potable demand is met with Carefree’s CAP M&I Supplies, including our original allocation, the Cave Creek transfer, and the supplemental (BHP Copper) allocation
- Future development will pay their prorated share of “buy-in” costs plus future anticipated water supply costs using a weighted average

Calculation

- 1,790 AF/yr of existing supply (including Cave Creek Transfer) – 1,300 AF/yr of existing demand = 490 AF/yr of remaining existing supplies
- Include 300 AF/yr of future supplies = 490 AF/yr + 300 AF/yr = 790 AF/yr
- Weight the remaining costs (378 AF of BHP Copper, 112 AF of NIA, and 300 AF of Bartlett/SCIF)
 $((378 \text{ AF}/790\text{AF}) * \$1,979.93) + ((112 \text{ AF}/790\text{AF}) * \$3,269.17) + ((300 \text{ AF}/790\text{AF}) * \$3,900.00)$
 $= \$947.36 + \$463.48 + \$1,481.01 = \$2,891.85 \rightarrow$ **Use \$2,890/AF**

**APPENDIX B
COST SENSITIVITY ANALYSIS**

200 AF OPTION

Future Allocations – Bartlett Dam Water & Salt River/CAP Interconnect Facility (SCIF) - 200 AF

Basis of water supply valuation

- Participation - $\$120,000/200 \text{ AF} = \$600/\text{AF}$
- Bartlett Dam Water Estimate = $\$2,500.00/\text{AF}$
- SCIF Estimate = $\$1,000/\text{AF}$
- Total = $\$600/\text{AF} + \$2,500.00/\text{AF} + \$1,000/\text{AF} = \$4,100/\text{AF}$

Calculation

- 1,790 AF/yr of existing supply (including Cave Creek Transfer) – 1,300 AF/yr of existing demand = 490 AF/yr of remaining existing supplies
- Include 200 AF/yr of future supplies = $490 \text{ AF/yr} + 200 \text{ AF/yr} = 690 \text{ AF/yr}$
- Weight the remaining costs (378 AF of BHP Copper, 112 AF of NIA, and 200 AF of Bartlett/SCIF)
 $((378 \text{ AF}/690\text{AF}) * \$1,979.93) + ((112 \text{ AF}/690\text{AF}) * \$3,269.17) + ((200 \text{ AF}/690\text{AF}) * \$4,100.00)$
 $= \$1,084.66 + \$530.65 + \$1,188.41 = \$2,803.72 \rightarrow \text{Use } \$2,800/\text{AF} = 3\% \text{ Reduction}$

100 AF OPTION

Future Allocations – Bartlett Dam Water & Salt River/CAP Interconnect Facility (SCIF) - 100 AF

Basis of water supply valuation

- Participation - $\$120,000/100 \text{ AF} = \$1,200/\text{AF}$
- Bartlett Dam Water Estimate = $\$2,500.00/\text{AF}$
- SCIF Estimate = $\$1,000/\text{AF}$
- Total = $\$1,200/\text{AF} + \$2,500.00/\text{AF} + \$1,000/\text{AF} = \$4,700/\text{AF}$

Calculation

- 1,790 AF/yr of existing supply (including Cave Creek Transfer) – 1,300 AF/yr of existing demand = 490 AF/yr of remaining existing supplies
- Include 100 AF/yr of future supplies = $490 \text{ AF/yr} + 100 \text{ AF/yr} = 590 \text{ AF/yr}$
- Weight the remaining costs (378 AF of BHP Copper, 112 AF of NIA, and 100 AF of Bartlett/SCIF)
 $((378 \text{ AF}/590\text{AF}) * \$1,979.93) + ((112 \text{ AF}/590\text{AF}) * \$3,269.17) + ((100 \text{ AF}/590\text{AF}) * \$4,700.00)$
 $= \$1,268.50 + \$620.59 + \$796.61 = \$2,685.70 \rightarrow \text{Use } \$2,690/\text{AF} = 7\% \text{ Reduction}$