

11. WATER RESOURCES ELEMENT

The City of Peoria knows that planning for its future requires consideration of the current and future water supply and demand. Because of its value, the City's water resources will play an increasingly important role in Peoria's growth and development plans. Fiscally and environmentally, intertwining Peoria's water resource planning and development planning makes sense.

The Water Resources Element is organized in the following manner:

- 11.a. Introduction
- 11.b. Summary of Existing Water Supplies
- 11.c. Summary of Existing Water Infrastructure
- 11.d. Goals, Objectives and Policies
- 11.e. Implementation Program (Strategies to Increase Capacity)

11.A. INTRODUCTION

Water policy direction and goals are created within an environment that is ever-changing. The use of water supplies in Arizona is affected by state and federal regulations. There are increasing demands for limited water resources making it even more necessary for Peoria to remain active and informed on current water issues. In addition to the changing water supply arena, regulations affecting the treatment and testing of water to meet water quality requirements are constantly changing.

Given the value of water in an arid environment, the Growing Smarter initiative included requirements for cities to recognize and plan for water supply constraints. For cities and counties that match certain criteria, Growing Smarter requires a summary of the current water supply. Components of the current water supply include surface water, groundwater, and reclaimed water. Although not referenced in the Growing Smarter legislation, water conservation can be considered a quasi-supply because it allows a city's water budget to serve more people. Water conservation ties into the next water component in Growing Smarter, which is an analysis of how future growth will be served by available water supplies or by a city's plan to obtain a larger supply. Growing Smarter recognizes that water planning and planning for future growth goes hand in hand.

At the state level, the Arizona Department of Water Resources (ADWR) has adopted the Third Management Plan (TMP) and is working on developing the Fourth Management Plan. The TMP is part of a series of five management plans that were mandated by the Groundwater Management Act of 1980 (GMA). The TMP has regulatory requirements for municipalities, particularly in the area of water conservation. Peoria also must comply with the Assured Water Supply (AWS) rules. The AWS rules require that water providers prove a 100-year supply of renewable water that is physically, continuously, and legally available, and must be of sufficient quality, before any additional development occurs. The City meets the requirements of this program through its Designation of Assured Water Supply (DAWS or Designation) issued by ADWR having met this rigorous criteria. The City first obtained a DAWS in 1997, and renewed and expanded the Designation in 2003. However, this Designation will expire in 2010. In 2009 the City submitted a new application for a Designation and requested an extended coverage date to 2030. This application is currently under review at ADWR.

Due to the regulatory need to reduce groundwater mining, Peoria has converted to renewable water resources for the majority of its water supply. The primary sources of renewable water are Central

Arizona Project (CAP) water, Salt River Project (SRP) water, and reclaimed water. In September 1998, Peoria began this conversion by using CAP water directly through the City of Glendale's Pyramid Peak Water Treatment Plant. In June 2002, Peoria's Greenway Water Treatment Plant began operating. This plant allows Peoria to use SRP surface water as a potable source. In 1999, Peoria started to receive recharge credits for the highly treated reclaimed water being recharged back into the groundwater aquifer at the Beardsley Wastewater Treatment Plant. Also, the recharge of surface water at the Aqua Fria and Hieroglyphic Mountains recharge facilities was started in 2002. The credits earned for the recharged water can be redeemed by the City through the water supply wells. In July 2008, Peoria dedicated the new and state-of-the-art Butler Water Reclamation Facility. This plant replaces the need for treating the City's wastewater in Tolleson. This plant will eventually produce up to 15,000 acre-feet per year of cleaned reclaimed water, most of which will be stored at the New River-Agua Fria Underground Storage Project (NAUSP), which is operated by SRP and in which the City has a 20% ownership stake.

Effective January 2006, the Environmental Protection Agency (EPA) lowered the maximum contaminant level (MCL) of arsenic across the nation. The EPA set the MCL for arsenic at 10 µg/liter, whereas the past MCL had been set at 50 µg/liter. This requirement primarily affects groundwater production and will require modifications to some existing wells and their delivery systems and possibly the drilling of new wells. Peoria is currently working to maximize the water production from existing and newly-constructed wells while meeting the MCL requirements for arsenic and other regulated constituents. Since much of Peoria's renewable supply utilization will occur as recovery through groundwater wells, it is important to continue to expand the capacity of the City's groundwater well infrastructure.

Peoria firmly believes in planning for future water needs and availability. In January 2006, a Water Resources Master Plan update was completed that outlined the City's options and strategies for meeting future water demands. The Water Resources Master Plan outlines both the legally and physically available supplies and the projected water demands as the City grows through build out. In November 2007, the City Council adopted the "Principles of Sound Water Management," a compendium of 17 policies that cover topics ranging from regulatory compliance to water conservation to land use water management to drought planning. The "Principles" act as an over-arching policy guide for the City's water future, and are unique among Arizona municipal providers.

11.B. SUMMARY OF EXISTING WATER SUPPLIES

The City has been actively engaged in obtaining and serving reliable and cost-effective water resources to its customers since 1954. The City currently has five sources of water in its portfolio from which to serve its customers, which are key components of the approved Designation:

- 1) Salt River Project (SRP) Surface Water – Salt and Verde Rivers, delivered by SRP canal system for use on SRP association member lands
- 2) Central Arizona Project (CAP) Surface Water - Colorado River, delivered by the Central Arizona Water Conservation District (CAWCD) through the CAP canal system (CAP)
- 3) Groundwater- available from multiple service area wells
- 4) Recovered Water, both CAP and Reclaimed Water: Available from multiple recovery wells as a result of the City's recharge of CAP and reclaimed water. The City is able to recharge water CAP water through ownership of portions of CAP recharge facilities and reclaimed water through 20%

ownership the SRP New River Agua Fria Underground Storage Facility as well as the City's Beardsley Water Reclamation Facility Underground Storage Facility.

5) Reclaimed Water-Direct Use for irrigation and other non-potable uses

Each water supply is discussed below.

SALT RIVER PROJECT (SRP OR PROJECT) WATER RIGHTS

Surface water delivered by SRP to the Greenway Water Treatment Plant is used for on-Project demands. The Greenway Water Treatment Plant is currently designed and built to treat 17,936 acre-feet per year. The City's SRP water supply was determined by SRP in a November 2008 study entitled "2008 Assured Water Supply Study for Salt River Project Member Lands". SRP annually allocates water stored in impoundments on the Salt-Verde River system and water developed from SRP wells, historically 3.0 acre-feet per acre of Member Lands. Although the City contains 10,877 acres which are Member Lands (including the town site), the SRP study utilized projected demand in 2030 instead of acreage to determine the maximum amount of water available to the City. All municipal providers receiving SRP surface water agree to the numbers fixed in the study. This consensus study has been previously submitted by SRP to ADWR. The total allocation for the City for Assured Water Supply Program purposes as determined in the study is 25,201 acre-feet. Currently the supply of SRP surface water exceeds the demand of on-Project lands. The Greenway WTP will need to be expanded in the future to treat its total SRP allocation, as SRP estimates that all the member lands in Peoria with SRP water rights will be urbanized.

GROUNDWATER ALLOWANCE

The City has an established volume of 1098 acre-feet of groundwater that may be pumped as part of its AWS. The City's groundwater allowance was calculated in the original 1997 Designation as 7.5% of the 1994 total demand.

INCIDENTAL GROUNDWATER RECHARGE

The AWS rules established a standard incidental recharge factor to recognize that some of the water used in a municipal system returns to the subsurface. This recharge is return flow from water leaks, waste, excess and urban irrigation. This volume is calculated annually as four percent of the total water used by the City. For 2008, the incidental recharge factor amounts to 1,176 acre-feet. Incidental recharge is calculated annually and credited to the City's groundwater credit account, as water the City may also legally pump.

CENTRAL ARIZONA PROJECT (CAP) ALLOCATION

The City holds a Municipal and Industrial (M&I) subcontract in the amount of 26,236 acre-feet per year. The City also holds a lease on Indian CAP M&I priority water in the amount of 7,000 acre-feet per year as the result of the Gila River Indian Community (GRIC) settlement. A total of 33,236 acre-feet per year is thus physically, continuously, and legally available from the CAP canal. These allocations may be used anywhere within the City's service area, consistent with City policy. The supplies may be delivered from the CAP Aqueduct and any location approved by the Central Arizona Water Conservation District (CAWCD). The supply is highly reliable. However, it is likely that some shortages may occur in the future during severe droughts on the Colorado River and when the Upper Basin states begin to utilize their full entitlements.

The City has purchased 10 cfs capacity in the SRP-CAP interconnect facility. Therefore, approximately 7,240 afa of CAP water may be wheeled through SRP conveyance facilities to City facilities.

RECOVERED WATER FROM RECHARGE CREDITS

The City stores water on its own behalf under a series of six Water Storage Permits. The sources of stored water include both CAP surface water and reclaimed water from City-owned water reclamation facilities. Water stored in excess of the amount annually recovered accrues Long-Term Storage Credits. Through its recharge activities to date, the City has already built up Long Term Storage Credits in excess of 35,000 acre-feet. These credits were accrued through in-lieu recharge on SRP lands by providing SRP with a portion of Peoria's CAP allocation, CAP water recharged at the Agua Fria and Hieroglyphic Mountain Recharge Projects, and reclaimed water recharged at the Beardsley Water Reclamation Facility (WRF) and the New River Agua Fria Underground Storage Project (NAUSP).

The credits are available to be recovered through groundwater pumping and will help to off-set any groundwater use. However, none of these credits are being pledged to the Designation of Assured Water Supply. Instead, the City is reserving these credits for the future in the event of a shortage in surface water. The City intends to add to these credits each year to the maximum extent possible.

RECLAIMED WATER

The City produced approximately 7,900 acre-feet of reclaimed water in 2008. This production will increase over time as the City's population increases. The City completed its first Reuse Master Plan in 2005 to guide the development of this valuable resource. Approximately 7,200 acre-feet, or 91%, of the City's reclaimed water was recharged, with 5.5% currently being directly reused to meet non-potable irrigation demand in the Vistancia master-planned community, and 3.5% directly reused in City facilities.

The City intends to increase deliveries of treated effluent for non-potable uses such as landscaping and golf courses as the supply of effluent increases whenever the opportunity is presented. The City intends to recharge all other treated effluent for annual recovery and Long-Term Storage Credits.

WATER CONSERVATION PROGRAM

While not a water supply in the traditional sense, the City water conservation program is an important compliment to the existing water resource portfolio of the City. Water conservation reduces water demands, which saves considerable capital and operating costs for the City and its customers and gives the City flexibility when planning for the future. At present, the City provides water conservation information and assistance to its residents through various utility efforts, financial incentives, and public awareness and education.

LAKE PLEASANT

Lake Pleasant is a significant recreational resource for the City. It provides regulatory storage for CAP and conservation storage for Maricopa Water District (MWD). As such, Lake Pleasant is not a direct water resource for the City.

11.C. SUMMARY OF EXISTING WATER INFRASTRUCTURE

INFRASTRUCTURE

The City currently operates a wide array of water resource treatment and production facilities. These include a water treatment plants (WTPs), wells, recharge facilities, recovery wells, and wastewater reclamation facilities (WRFs). The facilities are discussed below.

WATER TREATMENT PLANTS

The City owns 23% of the treatment capacity of the Pyramid Peak Water Treatment Plant which is operated by Glendale and owns and operates the Greenway WTP. The Pyramid Peak WTP serves CAP

water while the Greenway WTP treats SRP water mainly and can also serve CAP water. The first phase of the Greenway plant was constructed to have 17,936 afa (16.0 mgd) of capacity.

WELLS

The City has a total of 37 wells, including SRP wells available for City use, for municipal supply. In 2008 only 17 of these wells were pumped. The others were not active due to water quality or other issues. In total, the City has approximately 40,000 afa (36 mgd) of production capacity from existing wells, although some are currently inoperable due to water quality or other issues. The production wells are also permitted as recovery wells for the purpose of pumping recharge credits.

RECHARGE FACILITIES

The City has the following permitted recharge capacities through ownership of or in the listed facilities, for a total of 47,080 afa:

RECLAIMED WATER

- NAUSP (SRP facility): 14,600 afa
- Beardsley: 4,480 afa (phases upward to match WRF capacity)

CAP WATER

- Agua Fria Managed: 9,000 afa
- Agua Fria Constructed: 9,000 afa
- “Hieroglyphic Mountain” 10,000 afa

WASTEWATER TREATMENT PLANTS

The City owns and operates three WRFs: Beardsley, treatment capacity of 4.0 mgd; Jomax, treatment capacity of 2.25 mgd, and Butler, capacity 10 mgd. A MAG 208 Plan Amendment may be required in the future to accommodate changes in the build out design capacities and if so, the City will obtain such approval in a timely fashion.

11.D. GOALS, OBJECTIVES AND POLICIES

The goals, objectives and policies in this section provide the fundamental guidance for addressing a water resource issues. Policies in this element advocate careful management in order to assure an adequate and reliable supply of water resources.

In order to review all policies applicable to water resources and water conservation, the “Principles of Sound Water Management” should be consulted. This document was approved and adopted by the Peoria City Council in November, 2007.

GOAL 1:	MANAGE A COORDINATED SYSTEM OF WATER AND WASTEWATER UTILITY SERVICE FACILITIES AND RESOURCES TO ADEQUATELY SERVE BUSINESS, HOUSING AND OTHER USES.
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Objective 1.A:

Enhance and extend public wastewater service including collection and treatment systems to urbanized and newly developing areas of the City.

Policy 1.A.1:

Continuously maintain a Wastewater Master Plan and undertake comprehensive revisions on a five to seven year cycle.

Policy 1.A.2:

The Wastewater Master Plan shall support the General Plan.

Policy 1.A.3:

Maintain a Wastewater Reuse Plan as a component of the Wastewater Master Plan to maximize the beneficial use of reclaimed water.

Policy 1.A.4:

Utilize the Wastewater Expansion fee for new development as a component of the funding required for the Capital Improvement Program.

Objective 1.B:

Satisfy current and future water demands through sustainable and renewable water resources for the next 100 years.

Policy 1.B.1:

Continuously maintain a Water Resource Master Plan and undertake comprehensive revisions on a five to seven year cycle.

Policy 1.B.2:

The Water Resource Master Plan shall support the General Plan.

Policy 1.B.3:

Comply with the provisions of its Assured Water Supply designation by the Arizona Department of Water Resources.

Policy 1.B.4:

Continue to maximize the use of City surface water and stored/recovered water (renewable) supply system.

Policy 1.B.5:

Continue to pursue the acquisition of additional renewable water resources such as groundwater recharge programs, reclaimed water, and CAP or other available surface water.

Policy 1.B.6:

Utilize a Water Resource Expansion Fee for new development as a component of the funding required for new water resources.

Objective 1.C:

Enhance and extend public water service including distribution and potable treatment systems in both urbanized and newly developing areas of the City.

Policy 1.C.1:

Continuously maintain a Water Infrastructure Master Plan and undertake comprehensive revisions on a five to seven year cycle.

Policy 1.C.2:

The Water Infrastructure Master Plan shall conform to and support the General Plan.

Policy 1.C.3:

Meet and exceed the water quality requirements of the Safe Drinking Water Act and all other regulatory requirements. The City will place a priority on the aesthetic quality of the water it produces and delivers.

Policy 1.C.4:

Utilize the Water Expansion Fee for new development as a component of the funding required for the Capital Improvement Program.

Policy 1.C.5:

Continuously build and maintain a water distribution system which supports adequate fire suppression and enhances life safety and property protection.

11.E. IMPLEMENTATION PROGRAM (STRATEGIES TO INCREASE CAPACITY)

This section summarizes the conclusions which have been reached as a result of the analysis of the water supplies and demands for the City of Peoria. The strategies the City should pursue in order to assure an adequate and reliable supply are identified.

Conclusions are segregated into those related to water resource availability (which takes into account legal and physical availability) and those related to infrastructure capacity. The conclusions are based on the following general assumptions:

- City total per capita water use is approximately 165 gallons per day;
- Average annual population growth rate of four percent over the next 25 years;
- City build out occurs at approximately year 2060; and
- Water demands within private water companies are not included.

WATER RESOURCE AVAILABILITY

Summarized below are the major conclusions and issues relating to water resource availability:

- 1) SRP water supplies are more than adequate to serve on-project water demands and impacts from drought. The City should pursue opportunities for exchange agreements with SRP that would allow water to be moved off-Project. Such opportunities would include the use of reclaimed water from the Butler Water Reclamation Facility for parks, ball fields, common areas, and other large turf areas in place of SRP water, allowing an 80% exchange in which SRP water could be moved north. Also, during dry-up periods on the Arizona Canal, the City should pursue opportunities to recharge SRP surface water from the Grand Canal at NAUSP, which would allow recovery of water legally characterized as surface water from wells located on-Project during the same month. Due to the projected excess availability of water supplies in the SRP service area, planning of water-intensive development would be more favorable in this area.
- 2) The City's current CAP M&I subcontract of 26,236 afa should meet the water demands of the off-Project portions of the City. The City will build an additional water treatment plant or participate in ownership with other water treatment plant projects to fully utilize the available CAP supply in the off-Project service area.
- 3) With the leasing of 7,000 acre-feet of firming CAP water from the Gila River Indian Community (GRIC), and the leasing of 354 acre-feet of firming M&I priority and 935 acre-feet of non-firming non-

Indian agricultural priority CAP water from the White Mountain Apache Tribe (WMAT), the City should have sufficient water resource supplies to satisfy off-Project demands past 2030.

- 4) Reclaimed water will be available from the City's water reclamation facilities to augment water supplies. In order to maximize this resource, the City should continue to analyze and implement recharge/recovery opportunities, exchanges with SRP, and opportunities for direct deliveries, as they arise.
- 5) Annual recovery of stored water should be sufficient to supply the City's need for water pumped from wells without pumping excess groundwater.
- 6) The City will continue to purchase CAP water annually for recharge to ensure that the City recharges more water than it recovers annually, thus accruing Long-Term Storage Credits. The City should continue to maximize its Long-Term Storage Account in order to have legal authority to pump wells if CAP or SRP supplies are curtailed in a shortage situation. The City should also continue to utilize a small percentage of its credits for purposes that will enhance the ability to recharge water, such as trading credits for storage space at USFs.
- 7) The City should continue to actively participate in planning for additional supplies through the CAP system such as the ADD Water process and the Access to Excess discussions. The City should position itself to be able to acquire additional replenishable supplies from the CAP canal whenever the opportunity is presented. Additionally, the City should participate in any negotiations with tribal entities to settle water rights claims that might result in leasing CAP water.
- 8) Long-term groundwater pumping from adjacent cities and private water companies may impact the physical availability of groundwater in the City as well as recharge and recovery plans. A groundwater model and groundwater monitoring plan should be planned and implemented to track changes in the groundwater conditions within the City, and the model should be periodically updated.
- 9) Groundwater is not physically available in the northwestern portion of the service area. As a result, CAP water must be treated and served directly and/or groundwater imported from other City areas to meet these demands. This will require an additional water treatment plant, and/or agreements with other water providers, and/or infrastructure to cost-effectively move and store water to this area.
- 10) While there is currently groundwater(including that resulting from CAP and reclaimed water recharge by the City) physically available under the developed portion of the City, adequate infrastructure could be limited. A sufficient network of wells will be required to access this stored water and the legal authorization to pump these wells will need to be obtained. As older City wells reach the end of their usable lifespan, these wells should be replaced. Additionally, new wells should be planned for locations in the northern portion of the service area where abundant supplies can be predicted and redundancy with the CAP supply is needed.
- 11) Also of concern is the variable water quality at a number of the City's existing wells, which have required temporary and/or protracted shut-down while sources, causes and potential solutions are evaluated. Development of blending and treatment systems will likely need to be considered while the City continues to look for cost-effective ways to produce and deliver adequate safe water.

INFRASTRUCTURE CAPACITY

Summarized below are the major conclusions and issues related to the infrastructure required for delivery of water to users in the City.

- 1) The Greenway WTP is critical in providing treatment capacity to serve SRP water directly.
- 2) As the need for recovery of recharge credits increases, as the City experiences additional growth, and as older wells need replacement, new and replacement wells will be required to meet water demands.
- 3) Wells developed off-Project should be located where an abundant physically available supply can be predicted. Hydrogeological investigation for each new well must be undertaken to maximize the possibility of successful well drilling and resultant well production capabilities (both volume and water quality).
- 4) Additional infrastructure will be required to make use of both CAP and reclaimed water supplies. For CAP supplies, consideration must be made to balance recharge/recovery and direct use from water treatment plants. In some northern portions of the City, direct use of CAP supplies will be necessary because groundwater availability is limited due to hydrogeologic conditions. Siting additional water treatment plants should include evaluation of hydrogeologic conditions and location of demands.
- 5) Recharge of both reclaimed water and CAP supplies will be necessary to have groundwater capacity to meet peaking demands and also to provide redundancy in the system in case of emergency or drought.
- 6) Treatment for arsenic, fluoride, nitrates, or other water quality issues may be required to best utilize our existing infrastructure's access to groundwater

STRATEGIES

Strategies have been prepared that, when implemented, should provide the City with a reliable, sustainable, and economical supply to meet current and future water demands. In summary, the strategies continue the City's focus on providing renewable water resources balanced with groundwater resources and are based on the following underlying concepts:

- 1) Recharge of CAP and reclaimed water allowing annual recovery from wells and the accrual of Long-Term Storage Credits will be the core of the City's water resources portfolio, as the amount of reclaimed water expands with the growth of Peoria.
- 2) SRP water will meet all water demands on-Project until buildout, but may be subject to shortages in the event of drought.
- 3) Water delivered through the CAP system will be the basis for meeting much of the water demand off-Project, but may be subject to increasing shortages over time as changes in climate and competition for Colorado River water made this supply less assured.
- 4) The strategies will initiate the reuse of reclaimed water primarily through recharge and recovery programs, while modifying the existing CAP recharge program to include recharge and recovery as a near-and mid-term alternative to construction of additional WTP capacity. The strategies will require periodic review to determine if they remain viable and if they are the most appropriate methods to meet the City's needs and planning goals. Summarized below are the strategies that the City should initiate or continue in order to assure that adequate water resources are available now and in the

future. These activities have been segregated into near-term, mid-term, long-term and build-out strategies. The near-term strategy is composed of actions the City needs to pursue to assure that economical and adequate resources are in place through 2015. Mid-term strategy is for the period ending in 2025. The long-term strategy is for the period ending 2040. The build-out strategy is for full development of the City through approximately 2060. The strategies are designed to satisfy regulatory requirements for AWS and to fit with the existing regulatory framework.

NEAR-TERM STRATEGY

The near-term strategy is focused on developing surface water treatment facilities or agreements with other water providers to treat the City's surface water, and securing redundant recharge capacity (infrastructure). Also, additional wells must be planned and designed, and permitted as both service area and recovery wells. These activities act as a continued bridge from mined groundwater use to the direct delivery of surface water supplies (e.g., CAP and SRP) and pumping solely of recovered water. The stored water will serve to provide groundwater to meet shortages in treatment plant capacity, peaking demands, system redundancy, and canal outages. The City will also obtain a new Designation of Assured Water Supply within this timeframe.

The implementation steps are outlined below:

- 1) Maximize the pumping of recovered water. Continue to permit new and replacement wells as both service area and recovery wells.
- 2) Maximize the use of CAP recharge facilities that the City partners in the ownership, including CAP M&I water, excess water (when available), and water leased from GRIC and WMAT. The capacities secured in the sites are available for lease or assignment by the City to a third party if they are not in use by the City in order to provide maximum flexibility to the City. But since CAP water stored at these facilities can be recovered annually or used for LTSC accumulation, such storage by the City should be emphasized.
- 3) Maximize the recharge of reclaimed water at NAUSP and the City's own Beardsley USF, and other storage facilities available to the City. Reclaimed water stored at these facilities should accumulate Long-Term Storage Credits which will add to the City's water resources portfolio. Due to infiltration rates at these facilities being lower than originally predicted, the City should pursue alternative facilities. Opportunities for direct re-use of reclaimed water and developing groundwater savings facility (GSF) options from these facilities should also be pursued.
- 4) Evaluate and implement programs to improve data collection and reporting on water production and water delivered and billed to customers. Obtain updated City data that may be used to assess residential and non-residential water uses by location. The billing, water use, and population data should be used to re-evaluate the water resource strategies.
- 5) Evaluate and develop new water conservation programs to achieve permanent reductions in indoor and outdoor water use. Evaluate existing conservation programs for effectiveness in water savings, and develop program improvements where needed. Exterior residential water use may offer the greatest opportunity for water demand reductions.
- 6) Emphasize the planning and development of the City' reclaimed water direct reuse backbone infrastructure. Increase direct reuse to 50% of the total demand.

MID-TERM STRATEGY

The mid-term strategy (2016 –2025) focuses on maximization of recharge and recovery opportunities and the City’s CAP supplies, including Indian lease water. During this time period, the planning and development of water treatment plants and new well fields may be necessary for northern portions of the City where groundwater is not available. The implementation steps are outlined below.

- 1) Continue to recharge CAP water and reclaimed water in order to maintain a reserve of Long-Term Storage Credits and allow annual recovery of stored water.
- 2) Continue the groundwater quantity and quality monitoring program initiated in the earlier strategy. Water quantity and quality trends should be used to update or modify water resource strategies.
- 3) If they become available, evaluate the feasibility or purchase of low priority CAP supplies (non-Indian agricultural priority water).
- 4) Develop infrastructure that is compatible with the available water resources and location of water demands, including treatment needs to address water quality issues. Evaluate the location and timing of construction of a treatment plant for CAP water to serve the northern service areas of the City. Some northern areas have potentially abundant quantities of groundwater available and well fields will be required to develop these supplies.
- 5) Update the water resources master plan to include updates in population and growth projections and changes in water resources management and availability. The population data should be updated based on the 2010 census. City water use and billing data should be re-evaluated to analyze water use assumptions and conservation programs.
- 6) Implement innovative new strategies for water conservation.
- 7) Provide infrastructure and utilize reclaimed water at City’s major turf facilities. Ensure development is utilizing reclaimed water whenever possible or providing on-site infrastructure to hook-up the City’s growing backbone system. Increase direct reuse to 10% of the total demand.

LONG-TERM STRATEGY

The long-term strategy (2025–2040) continues the focus on investment in renewable supplies. In addition, the strategy begins evaluation of potential imported supplies if City population growth begins to outpace the growth in water supplies.

- 1) Evaluate need for imported supplies. Population data from the 2020 census should be evaluated along with population growth rate projections and City water use trends. If the growth rates and water use trends indicate that the build-out projections used in the current water resources plan will be exceeded, imported water supplies must be considered.
- 2) Continue evaluation of need for WTPs to serve the northern areas of the City that lack groundwater availability.
- 3) Participate in development and implementation of CAP wheeling policies. These policies will be the likely mechanism to import additional water supplies.
- 4) Participate in the development of additional groundwater management rules and regulations. The goal of safe yield is supposed to be met by 2025. It is likely that to meet that goal, additional regulations may be developed. City staff should continue to participate in these issues.
- 5) Continue the groundwater quantity and quality monitoring program initiated in the earlier strategy. Water quantity and quality trends should be used to update or modify water resource strategies.

- 6) Increase direct reuse to 20% of the total demand.

BUILD-OUT STRATEGY

The build-out strategy (2041–2060) shifts toward monitoring and maintenance of the City’s resources unless additional growth is anticipated. If additional growth is projected, then imported supplies must be secured in this time frame.

- 1) Evaluate need for imported supplies. Population data from the 2040 census should be evaluated along with population growth rate projections and City water use trends. If the growth rates and water use trends indicate that the build-out projections used in the 2006 water resources plan will be exceeded, imported water supplies must be considered.
- 2) Continue the groundwater quantity and quality monitoring program initiated in the earlier strategy. Water quantity and quality trends should be used to update or modify water resource strategies.
- 3) Expand water conservation programs to all aspects of life in Peoria in order to decrease demands.
- 4) Increase direct reuse to 30% of the total demand