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## **WATER RESOURCES ELEMENT**

### **8.0 GOALS**

1. Provide residents and businesses an adequate clean water supply.
2. Encourage conservation measures to be implemented during development.
3. Pursue water recharge capabilities and a gray water usage system.

### **8.1 PURPOSE**

The Water Resources Element provides an overview of existing conditions within the community and addresses future needs. Data included within this element provides guidance in determining the source, supply, and quality available to the City's existing and future residents. As water is a scarce resource throughout Arizona, information within this element should play an important role in guiding sustainability of the City through applicable and viable goals and objectives.

### **8.2 EXISTING CHARACTER**

Water resources within the Planning Area of Eloy are part of the Pinal AMA. The Pinal AMA is further divided into five sub-basins. A majority of the water drawn from these sub-basin areas is still used for agricultural purposes which has, according to the Arizona Department of Water Resources, resulted in an approximate 400-foot decline in subsurface water levels.

#### **Long Term Water Supply Planning and the Groundwater Code**

The 1980 Arizona Groundwater Code recognized the need to aggressively manage the State's finite groundwater resources to support the growing economy. Areas with heavy reliance on mined groundwater were identified and designated as Active Management Areas (AMA's). There are five AMA's which are subject to regulation pursuant to the Groundwater Code. Each AMA carries out its programs in a manner consistent with these goals, while considering and incorporating the unique character of each AMA and its water users. The City of Eloy lies within the Pinal AMA. In the Pinal AMA, where the economy is primarily agricultural, the management goal is to preserve that economy for as long as feasible, while considering the need to preserve groundwater for future non-irrigation uses. The mission of the Pinal AMA is to ensure a reliable and sustainable water supply will efficiently meet current and future water uses while protecting the environment and general economy.

One of the primary functions of the Groundwater Code in the AMAs' is the requirement that all new subdivision development must demonstrate a 100-year renewable water supply. As part of its long-term water planning, the

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### **8.2 EXISTING CHARACTER**

#### **Long Term Water Supply Planning and the Groundwater Code**

City of Eloy has applied for and received from the Arizona Department of Water Resources a designation of Assured Water Supply. Under this designated water provider status the City has demonstrated that it has sufficient 100-year renewable water supplies to satisfy all of its current demands, plus its committed demands (platted but vacant lots), and all the anticipated growth through the year 2015. It is important to note that although use of renewable supplies is growing (CAP and reclaimed water), groundwater is still the largest source of water used to meet demands within the AMA.

Water use within the Pinal AMA for all sectors (municipal, industrial, and agricultural) includes groundwater, surface water, CAP water and reclaimed water. Recharge occurs naturally, and from artificial sources. Artificial sources include recharge from municipal and industrial delivery sources as well as from agricultural activities (i.e. canals and field seepage). Artificial recharge also includes intentional recharging activities at permitted facilities creating long term underground storage. Currently the City is permitted by ADWR to recharge up to 2,240 acre-feet per year of effluent at the Eloy Reclaimed Water Recharge Project (ERWRP).

The City of Eloy owns, operates and provides water services to approximately 11,000 residents and commercial and industrial businesses. The current service area extends from Cornman Road on the north southward to Milligan Road, and from La Palma Road on the east to Sunland Gin Road on the west. The service area does not mirror the City limits but exceeds the limits in some areas and does not reach the boundary in other areas.

Deep groundwater wells currently provide the bulk of the water needs of the community (including domestic and commercial/industrial). These wells are anticipated to continue providing for the communities water needs. Additional water wells will be needed in the future as the City of Eloy grows and expands to develop the Planning Area. In addition, the City has recently entered into a Memorandum of Understanding with Global Water Resources, a private water utility company, to meet the needs of residents and businesses within the eastern portion of the Planning Area where the City does not currently have infrastructure.

There are approximately 125 miles of mains and lines that provide the bulk of the water service within the community. The City also has two 1.0-Million Gallon storage tanks in the southeast part of the City, one 1.0-Million Gallon storage tank located in the northwest part of the City, both very close to U.S. Highway-84 (Frontier Street) and another 1.0 million gallon storage tank at the airport. These storage tanks are filled from deep groundwater wells (each approximately 1,000 feet in depth) using a number of booster pumps with emergency contingencies.

Recently, as development has occurred, the developer has been responsible for providing the necessary infrastructure and utility linkages as part of the development approval to ensure that the new development pays its "fair share" for the additional impact generated. It is anticipated that all future developments shall also be responsible for all infrastructure and necessary system upgrades including new wells, booster pumps, storage tanks and reservoirs.

Average water demand as tabulated from meter readings was 1290 gallons-per-minute. There are areas within the water provision area where residential flow cannot meet the needed demand. This is due to distance from booster stations and pipe diameter.

The City of Eloy has completed application requirements to receive the designation for having an "Assured Water Supply" and has been designated for approximately 49,000 acre feet which, using current demands, equates to 60,000 homes.

According to Arizona Department of Water Resources (ADWR) the City of Eloy is currently (2009) designated to use up to 49,000 acre feet of water. Each year they review the City's designation, including the quantity of water the City is using, to determine whether the City is still in compliance with the amount of water they are designated to use. This includes adding the total water demand for the year, plus two years of projected demand, plus any committed demand (developments entitled by Commission and Council). If the total of these three numbers is less than the designated amount, the City may continue to grow and develop accordingly. However, for Eloy, if this number were to exceed 49,000 acre feet of water then the City would need to apply for an amended Designation of Assured Water Supply with ADWR and include updated Hydrology studies or any other information that would allow them to continue being designated, and thus meet the state's assured water supply requirements.

## **Demand**

Historically, agricultural uses have been responsible for the majority of water use. Central Arizona Irrigation and Drainage District (CAIDD) has helped provide the agricultural uses with a water supply. Those agricultural uses outside of the CAIDD must rely solely on groundwater for irrigation purposes.

The City of Eloy has the water resources available and has been certificated to provide water for up to 60,000 homes with a Designation of Assured Water Supply (DAWS) of approximately 49,000 acre feet. This area of certificated water provision may increase as developments occur and as the City's population increases. It is important to point out that additional

## **Demand**

information is included within the appendix and is a "snapshot" in time of the existing conditions within the City.

### **8.3 DISCUSSION**

There are multiple important factors to consider regarding the provision of water and like resources to the residents of the City of Eloy, including conservation measures, landscaping standards, emergency water provision contingencies, water quality, wastewater usage (effluent or gray water) and master planning the layout of mains, booster pumps, and other necessary infrastructure improvements.

Implementing conservation strategies may help to preserve groundwater for future use by the citizenry. It will be important to conserve water through various measures, policies and plans. Specific landscaping (Xeriscape) can go a long way in conserving water for potable use.

Another method of water conservation would be water re-use. While the City does not yet utilize a direct water re-use system it is in the process of studying the viability of such programs. These types of programs would use effluent or gray water for various activities such as landscaping, water features within developments, golf courses and other recreation activities.

Monitoring water quality is important to ensure that the health, safety, and welfare of the residents are protected.

It is as important to plan out the locations of water mains, booster stations and other infrastructure related to water utilities as it is for a City to plan out proposed street circulation through a circulation map.

The City's Master Water Plan discusses that water storage tanks should be placed at a distance of 12,200 feet on center or a 6,100-foot service radius per tank. At build out this could equate to approximately 100 additional four- (4-) million gallon water storage tanks. Subsequently additional infrastructure to serve these tanks will be required. Planning for this infrastructure will be conducted as demand requires.

### **8.4 OBJECTIVES**

1. Continue to provide adequate water resources to both residents and farmers either by using the City's water resources or by entering into public private agreements with private water companies.
2. Continue to plan for development and require necessary utility infrastructure expansion on an as needed basis by requiring developers to build that infrastructure required by each development.

### **8.3 DISCUSSION**

### **8.4 OBJECTIVES**

3. Continue to monitor utility fees and adjust accordingly as demand dictates.
4. Continue to monitor the City's water supply and number of water storage tanks. As development occurs additional water storage tanks will be needed.
5. As development occurs, the City should continue to evaluate its water service boundary and expand as necessary.
6. Research viable water conservation (including emergency conservation) methods and adopt policies and standards for their enforcement.
7. Adopt water wasting prevention policies.
8. Research and adopt low water use landscape standards.
9. Review, update and enforce the Water System Development Standards.
10. Research successful Emergency Operations Plans used by other Cities.
11. Research other viable water sources including private water utility companies and seek excess or other allocations of Central Arizona Project (CAP) water for recharge and later recovery through the Central Arizona Groundwater Replenishment District (CAGRDR).
12. Continue to monitor water quality for potable purposes.
13. Implement and adopt a water reuse program that would provide gray water or effluent for commercial and industrial uses.



