
APPENDICES

GENERAL DISCUSSION OF INFORMATION

LAND USE APPENDIX

Eloy's residents, business owners, and property owners are committed to building a community that supports the preservation and improvement of established neighborhoods and diversifies its economic base. In addition to preserving established neighborhoods, Eloy residents also desire to create new neighborhoods and employment centers that would improve their quality of life.

RESIDENTIAL TARGET DENSITIES

The use of residential target densities has been identified as a critical factor by the community. Target densities provide a benchmark within each residential land use designation with the desire exhibited by Eloy residents for future growth and quality development. The target density will be used for all developments, which meet the intent of the General Plan and other adopted ordinances. This density "cap" may be exceeded if the proposed development exceeds the intent of the General Plan and other adopted ordinances through superior design in all areas, including amenities, architecture, landscaping and open space. All instances where an increase in the density "cap" is requested shall require approval of the City Council.

The target densities shall also assist the City in planning for the community's buildout population and anticipating the resulting impact on public facilities, infrastructure, service needs and capacity.

The following formula shall be used to determine total density of a proposed development:

$$D = \frac{DU's}{Ac - (C + S + Ar)}$$

- D = Residential density
- DU = Total number of dwelling units in proposed development
- Ac = Total site area (gross acres)
- C = Total Commercial land area (acres)
- S = Reserved but undedicated school sites (acres)
- Ar = Arterial rights of way (acres)

APP-1: Target Lot Size & Population Density				
Land Use Designation (Density Range)	Target Density	Target Lot Size ¹ (ac/sf)	Dwelling Units Per Square Mile ¹	People Per Square Mile ²
Estate (0.2 - 1.0)	0.2 du/ac	5 ac	128	461
Low (1.0 - 3.0)	1.0 du/ac	35,000 sf	637	2,293
Medium (3.0 - 6.0)	4.0 du/ac	8,700 sf	2,564	9,230
Medium High (6.0 - 10.0)	6.5 du/ac	5,400 sf	4,130	14,868
High (10.0 - 24.0)	10.0 du/ac	3,500 sf	6,372	19,116

¹ Subtracts 20% of the low to high land use designations for roadways, utilities, and drainage.

² The population density (household size) for the land use designations between 0-10 dwelling units per acre is 3.60 persons per dwelling unit. The population density (household size) for the land use designations for 10+ dwelling units per acre is 3.00 persons per dwelling unit.

The Table above, *Target Lot Size and Population Density*, quantifies the number of dwelling units and the resulting population on a square mile basis. The intent of this analysis is to illustrate the population that results from development within these land use designations. Due to the enormous potential impact that this increase in population could have on public services and infrastructure it will be important to prepare for these needs. The use of target densities provides the foundation for baseline population estimates which can be used to then plan for future service and infrastructure needs.

NEAR-TERM POPULATION AND HOUSING PROJECTIONS

Arizona Department of Economic Security (DES) prepared population Projections in 1997 that forecasted a slower rate of increase than previously experienced between 1990 and 1997. Initial annual population growth rate estimates for Eloy between 2002 and 2010 may be as low as 1.0% and as high as 3.58%.

However, the City Council and Staff believe that the rate of growth over the previous 10 years and the anticipated future development may lift the City’s population growth rate above the DES projections. The Table below, *City of Eloy Population Projections, 2000-2020* illustrates three growth scenarios (1) Arizona DES projections (1.0%), (2) the current City population growth trend (4.4%), and (3) a growth rate (8.8%) that reflects the capture of approximately 50% of the potential buildout development proposed for the Eloy Study Area.

APP-2: CAAG Population Projections 2005-2040							
Areas of Growth	2005	2010	2015	2020	2025	2030	2040
Eloy	18,576	22,272	31,251	45,911	76,812	107,943	202,774
Picacho/Red Rock	1,247	2,393	5,179	9,825	18,440	27,913	51,103

Source: CAAG Projections Study, 2009;

The City of Eloy has grown by 82% over the last nine (9) years since the General Plan was last updated.

PARKS, OPEN SPACE AND TRAILS ELEMENT

Definitions

Parks: Includes a public or private tract of land that contains a mix of active and passive recreational facilities including tot lots, defined and improved playfield and/or sport court areas, and picnic/seating/shade areas that are landscaped/hardscaped in an aesthetic manner.

Natural Area Open Space: Includes dedicated areas required for the preservation of plant and animal life, including habitat for fish and wildlife species; and areas required for ecological, cultural and other scientific study purposes for long-term public benefit. Existing areas are located at the Picacho Reservoir and Ironwood Forest National Monument, both located within the Planning Area boundary. Natural area open space may also include floodplain areas.

Managed Resource Open Space: Includes agricultural lands, golf courses, and floodplain/stormwater areas required for basins to provide groundwater recharge. These areas may be either publicly owned or privately held.

APP-3: Eloy Park, Recreation, & Open Space Needs				
Parks, Recreation Facility, and Open Space Type¹	Recommended Standard/Population	Year 2010 Needed Facilities	Current Level of Service²	Surplus or (Deficiency)
Parks				
Mini-Park	0.1/1,000	1.6 Acres	2.1 Acres	0.5 Acres
Neighborhood Park	0.7/1,000	11.2 Acres	11.3 Acres	0.1 Acres
Regional Park	2.2/1,000	35.1 Acres	0 Acres	(35.1 Acres)
Park Total	3.0/1,000	47.9 Acres	14.8 Acres	(34.5 Acres)
Open Space				
Natural Area Open Space	Varies	Varies	0 Acres	NA
Greenways, Trails and Multi-use Paths	Varies	Varies	0 Acres	NA
Open Space Total	3.0/1,000	47.9 Acres	0 Acres	(47.9 Acres)

APP-4: Park Types & Projected Need								
	Mini-Park		Neighborhood Park		Community Park		Total	
	Projected Need	Acreage per Park	Projected Need	Acreage per Park	Projected Need	Acreage per Park	Parks	Acreage
Year 2010	1	0.6	0	0	2	16.25	3	33.1
Build Out	9	1.0	13	5	13	16.25	35	285.3

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APP-5: Recreational Facilities & Supporting Population				
Recreational Facilities	Recommended Standard/Population	Year 2010 Needed Facilities	Current Level of Service²	Surplus or (Deficiency)
Urban Multi-Purpose Trail System	1 Mile/2,000	7.9 Miles	0 Miles	(7.9 Miles)
Swimming	1 Pool/5,000	3 Pools	2 Pools	(1 Pool)
Softball/Baseball	1 Diamond/2,500	6 Diamonds	7 Diamonds	1 Diamond
Soccer/Football	1 Field/10,000	1 Field	3 Fields	2 Fields
Basketball	1 Court/2,500	6 Courts	16 Courts	9 Courts
Volleyball	1 Court/5,000	3 Courts	4 Courts	1 Court
Tennis	1 Court/5,000	3 Courts	8 Courts	5 Courts
Skateboarding	1 Facility/25,000	1 Facility	0 Facility	(1 Facility)
Recreation Center	1 Facility/15,000	1 Facility	1 Facility	0 Facility
Golf Course	1-18 Hole Course/25,000	1 Facility	1 Facility	0 Facility

HOUSING ELEMENT

Housing Conditions

At this time, occupied units in Eloy consist of approximately 62 percent owner-occupied and 38 percent renter-occupied. Based on these percentages, Eloy has a lower rate of ownership than other areas of Pinal County, and the State of Arizona, as illustrated in the *Housing Tenure* table below.

Age of Housing Units, shows Eloy’s housing stock has developed relatively consistently by decade since 1940, with the exception of the 1970’s when over 27 percent of the City’s units were constructed. Approximately 65-percent of the City’s 3,159 units are single-family homes, while 20-percent are multi-family structures and 15-percent are manufactured homes.

APP-6: Age of Housing Units		
Year Constructed	Units	% of total
2000 to 2009	425	13.5%
1990 to 1999	429	13.6%
1980 to 1989	528	16.7%
1970 to 1979	747	23.6%
1960 to 1969	455	14.4%
1950 to 1959	203	6.4%
1940 to 1949	291	9.2%
1939 or earlier	81	2.6%
Total	3159	100.0%

Source: US Census Bureau, 1990 and 2000 and the Pinal County Housing Needs Assessment.

The age of housing had the greatest correlation to housing in need of major rehabilitation. Downtown housing was built in the 1940’s or earlier. North Toltec neighborhood housing units in need of major rehabilitation are primarily old mobile homes built to lower quality standards than those exhibited in mobile homes built over the past 10 years.

Adequate Sites for Housing

When evaluating a community’s housing opportunities one should consider the availability of land suitable for a range of housing types. The *Incorporated Area Dwelling Units and Population Buildout* table, shows that the Land Use Element of this General Plan designates approximately 291,615 acres for residential uses, which could yield more than 214,910 units and a build-out population of 541,572.92 residents within the existing Planning Area and City Limits. Even under the most aggressive growth scenario evaluated for the General Plan Update, this would result in a residential land supply sufficient to accommodate double the forecasted residential demand of 200,000 residents as estimated by Maricopa Association of Governments (MAG).

APP-7: Housing Tenure 2000						
Housing Tenure	Eloy		Pinal County		Arizona	
	Units	% of Total	Units	% of Total	Units	% of Total
Owner-Occupied	1,590	64.3%	47,522	77.4%	1,293,556	68.0%
Renter-Occupied	882	35.7%	13,842	22.6%	607,771	32.0%
Total	2,472	100.0%	61,364	100.0%	1,901,327	100.0%

Source: US Census Bureau, 2000.

The *Housing Occupancy Status* table, shows, Eloy's vacancy rate in 2000 was 8.9 percent and is significantly lower than either the County's or the State's.

APP-8: Housing Occupancy Status 2000						
Occupancy Status	Eloy		Pinal County		Arizona	
	Units	% of Total	Units	% of Total	Units	% of Total
Occupied Housing Units	2,472	90.3%	61,364	75.6%	1,901,327	86.9%
Vacant Housing Units	265	9.7%	19,790	24.4%	287,862	13.1%
Total Housing Units	2,737	100.0%	81,154	100.0%	2,189,189	100.0%

Source: US Census Bureau, 2000 and the Pinal County Housing Needs Assessment.

APP-9: Planning Area & Incorporated Dwelling Units & Population Buildout			
Land Use Category/Target Density	Net Acreage ³	Dwelling Units ¹	Population ²
Estate (.20 du/ac)	168,176.54	33,635.31	121,087.12
Low (1.0 du/ac)	5,043.1	5,043.1	18,155.2
Medium (4.0 du/ac)	27,062.3	108,249.2	292,272.8
Medium-High (6.5 du/ac)	2,262.4	14,705.6	52,940.2
High (10.0 du/ac)	1,586.6	15,866	57,117.6
TOTAL	291,615.60	177,499.21	541,572.92

¹Utilizes the target density for each land use designation.

²The population density (household size) for the City of Eloy is ~2.98, using the population estimates found on page 2 of this document and the 2005 CAAG household estimates.

³Net acreage is calculated by subtracting 20-percent of the gross acreage to allow for public infrastructure (streets, utilities, parks, etc.).

Large Households

Of particular note is that Eloy's average household size exceeds both Pinal County's and the State's average for both renter-and owner-occupied housing, as illustrated in *Average Household Size 2000* below. This provides a clear indication that the City needs more multi-bedroom units for both rentals- and owner-occupied housing.

APP-10: Average Household Size 2000			
Unit Type	Eloy	Pinal County	Arizona
Owner-Occupied	3.62	2.61	2.69
Renter-Occupied	3.48	2.93	2.53
Overall	3.57	2.68	2.64

Source: US Census Bureau, 2000.

WATER RESOURCES

Since 1948, a total of 43 million acre-feet (af) have been pumped from the aquifer in Pinal County. The amount of groundwater overdraft, the amount that is not replaced by natural recharge, has lowered the water table in excess of 400 feet in the Eloy area. However, the reduction in cultivated acreage and use of Central Arizona Project (CAP) water supplies has assisted in producing increases in groundwater levels.

In 1980, the State of Arizona passed the Groundwater Management Code (GMC) to promote water conservation and long-range water resource planning within the State. The GMC is administered by the Arizona Department of Water Resources (ADWR), which has now adopted its Third Management Plan (TMP) for the Pinal Active Management Area (AMA) 2000-2010. The Pinal AMA is one of five AMA's designated within the State that is regulated by the management plans. The TMP identifies the activities necessary to achieve reductions in groundwater withdrawal, particularly through water conservation measures.

A key provision of the Code as it relates to the City of Eloy is its Assured Water Supply Program. The program is governed by the Assured Water Supply Rules (AWSR), which require proposed uses to demonstrate that an adequate quantity and quality of water is available for a period of 100 years. The sale or lease of subdivided land within the Pinal AMA is prohibited without the approval of an assured water supply. The rule not only applies to the private development of subdivisions, but to municipal entities proposing to serve new customers.

WATER SUPPLY RESOURCES

The study area is characterized by two distinct natural surface water drainage patterns: small, ephemeral washes/streams and a major watercourse. The major watercourse is the Santa Cruz River, which flows northwest from the southeast corner of the Planning Area. North of Nutt Road, the Santa Cruz River channel historically enters the Santa Cruz Flats as an undefined channel. At that point the floodwaters are not contained within banks and spread in a braided manner across the flats. A portion of the water also enters manmade channels within the Santa Cruz Flats. Numerous small washes and ephemeral streams cross the northwest corner of the study area. Several originate in the Casa Grande and Sawtooth Mountains and flow out onto the alluvial fans and the valley basin floor.

These washes are not clearly defined and have a tendency to meander. As a result, the exact floodplains are not easily defined.

Picacho Reservoir, located in the northeast area of the planning area, is a regulated (i.e. canal flow) reservoir for the San Carlos Irrigation and Drainage District. The reservoir varies in its storage function throughout the year and has a storage capacity of 24,500 acre-feet.

Typically in the Eloy Sub-basin, the majority of the surface water resources are utilized for agricultural irrigation and turf watering. All surface supplies are imported into the Sub-basin through the Tucson Aqueduct of the Central Arizona Project, the 337-mile conduit that conveys Colorado River water to the Phoenix and Tucson metropolitan areas as well as agricultural, municipal, and industrial users within the Pinal AMA. The availability and use of the imported CAP water has minimized the advance of groundwater declines, ground subsidence, and earth fissuring.

In 1996, the City of Eloy took advantage of a new incentive pricing program for municipal CAP water that had been initiated that year by the Central Arizona Water Conservation District (CAWCD). The City purchased 24,445 af of these supplies, obtained a water storage permit from the ADWR, stored the water in the Hohokam Irrigation and Drainage District's (HIDD) groundwater savings facility, and accrued approximately 21,500 af of storage credits. Each year, the City uses 325 af of these credits to meet its groundwater use limitation requirements under the Alternative Conservation Program for the Second Management Plan (SMP).

GROUNDWATER

The City of Eloy Study Area is located within the Eloy Sub-basin of the Pinal AMA. The Eloy Sub-basin is bounded by the Sacaton Mountains on the north, Silverbell Mountains on the south, Picacho Mountains on the east, Sawtooth Mountains on the west and includes the communities of Florence, Coolidge, Casa Grande, and Eloy. The sub-basin captures approximately 20,500 of groundwater underflow from the Tucson AMA as well as 3,700 af from the Aguirre Sub-basin and transmits approximately 11,800 af of outflow at its northern region. Three main water zones comprise this sub-basin.

The Lower Main Water Zone, located northeast of the City, is the most extensive and contiguous zone within the basin. The depth to groundwater within this zone is generally 200 feet (60.96 meters) below the ground's surface.

The Upper Main Water Zone is the most productive source within the study area. Soil conditions here are so favorable to groundwater withdrawal that wells located here may yield in excess of 2,000 gallons of water per minute. Additionally, groundwater depth in this zone is as shallow as 20 feet (6.09 meters) to approximately 450 feet (137.16 meters) below the surface.

The third zone is the Local Water Zone. It consists of perched aquifers, formed by semi-impermeable sands deposited in the upper basin fill, which is created near surface waters. A total of 22.5 million af feet of groundwater is estimated to be located within the Eloy Sub-basin at a depth of less than 1,000 feet.

The Picacho Reservoir perched aquifer underlies the Eloy Study Area and extends further north. Extensive groundwater withdrawal for agricultural purposes has created a unique, although unfortunate, situation of subsidence. As cotton-growing activities have decreased in the vicinity of Eloy, water levels appear to have recovered, and this has been evidenced in a 25- to 50-foot increase in the upper aquifer between 1989 and 1993 and again in a 10- to 20-foot increase in the water elevation from 1994 to 1998.

Eloy also abides by the Assured Water Supply Rules. The AWS rules require that water providers prove that a 100-year supply of water exists before any new residential growth occurs. The water supply used for the AWS designation is required to show a decreasing reliance on groundwater.

WATER DEMAND

AGRICULTURAL

Agricultural uses in the Pinal AMA have historically comprised the major demand on water. Water for irrigation reaches the study area via the Tucson Aqueduct (CAP Canal), which is intersected by the Santa Rosa Canal and the Central Main Canal, which are also CAP facilities. The main canals distribute water to the distribution canals, which then conveys water to individual farms.

The CAIDD, while augmented by CAP Water, is the district that serves agricultural interests in the City's Planning Area and serves 87,000 acres and leases 368 wells that supply an average of 190,000 af of groundwater. Since 1987, CAIDD's water supply is a combination of approximately 43 percent groundwater, 14 percent groundwater in lieu, and 43 percent CAP water split to irrigate a total of 47,200 acres of crops. Farms located outside the CAIDD boundaries are completely reliant on groundwater for irrigation.

In an effort to regulate agricultural use, the ADWR issued Certificates of Irrigation Grandfathered Rights (IGFR) in the early 1980s, based on cropland irrigated between 1975 and 1980. The intent of the certificates was to “cap” the amount of non-Indian irrigated acreage within the AMA. The department has established a maximum annual groundwater allotment based on certain criteria. The allotment or water duty is based on the irrigation requirements per acre (i.e. cotton, grapes, grains, alfalfa, etc.) divided by the irrigation efficiency (i.e. 75 percent).

MUNICIPAL USE

The City of Eloy provides water to a certificated area that includes approximately 12 square miles. The potable water distribution system was initially constructed in 1949. The City serves its customers from six wells that can provide approximately two mgd. The City has approximately three mgd of storage capacity and nearly 40 miles of piping. Average daily peak use is 1.84 mgd. In 1995 the City's population was determined to be 7,502, which utilized a total of 2,329 af of water. The supply comprised 1,770 af (76 percent) of groundwater and 559 af (23 percent) of CAP water. The 1996 usage translated to a gallon per capita per day (gpcd) of approximately 211, which has improved to a rate of 162 gpcd by the year 2000.

The City has an existing annual allocation of 2,171 af of municipal CAP water. Nearly 280 af have been utilized to irrigate the municipal golf course and cemetery. The remaining amount was banked for CAIDD.

In terms of effluent generation, the City has 1,617 wastewater customers within its service area. The wastewater treatment plant has a capacity of 2.0 mgd and currently discharges .50 mgd of effluent daily. The effluent is currently being used to irrigate farmland and for direct recharge. However, the City will not receive recharge credits until the State issues a permit, based on the completion of the North Toltec Sewer Interceptor projects, which are slated to be complete by December 2005.

It should be noted that the City of Mesa owns nearly 11,000 acres of land within the Sub-basin, with approximately 2,650 acres located within the study area. The ADWR has approved the City's development plan to retire the farmland. If retired in its entirety, a total of 30,000 acre-feet of water could be withdrawn annually by the City of Mesa and exchanged for CAP water in its service area. At this point in time, it appears that the City of Mesa does not have plans to implement its development plan over the next 20-year period.

WATER SUPPLY ISSUES

The Eloy Sub-basin is susceptible to numerous environmental, physical, financial, and regulatory issues that could have an effect on the amount and timing of groundwater availability for agricultural, municipal, and industrial uses. These issues are embodied in the following:

Crop Demand -The existing crop pattern in the Sub-basin is primarily cotton, and is not expected to change, but the water requirements for irrigation vary greatly depending on the specific crop type. In addition, the global, national, and regional markets also play a role in the type and amount of irrigable crops grown.

Federal Agriculture Improvement and Reform Act (FAIR) - The phase out period for crop restrictions ended in 2002, essentially deregulating farming practices. Unrestricted selection of crop types may have an impact on the amount of acreage irrigated and the demand for water.

Reclamation Reform Act (RRA) -The RRA established strict requirements for agricultural CAP supplies that prohibit the CAIDD from delivering CAP water to ineligible acreage, (i.e. Non-Irrigation Grandfathered Rights [IGFR's] farmland). This act forces the district to deliver groundwater (or indirect recharge water) for cropland irrigation even though CAP water has been available. However, the CAIDD has the authority to pump up to 30,000 af annually to serve ineligible lands. If indirect recharge is reduced, greater demand will be placed on groundwater pumping.

Indian Water Adjudication -The Gila River Indian Community is a party in the Gila River General Stream Adjudication. When a settlement is negotiated, the impacts on non-Indian agricultural use in the form of CAP water supplies, Gila River water supplies, groundwater pumping, and storage credits may be extensive.

Groundwater Recharge -The process of groundwater recharge allows for the storage of groundwater through direct recharge or indirectly, through the use of renewable supplies in exchange for reduced groundwater pumping. While recharge could be a viable augmentation strategy, indirect recharge costs that are higher than groundwater pumping costs would minimize its use.

Farmland Retirement -The retirement of farmland is expected to occur in the area surrounding Eloy. Retirement can occur in three ways: urbanization, IGFR conversion to Type 1 grandfathered right, or IGFR extinguishment. It is anticipated that other farmland not under cultivation would be put under production, based on market demand.

Groundwater Pumping Limitations -The CAIDD has agreed to restrict its groundwater pumping to 240,000 af annually. The amount will be reduced by the amount of CAP water made available. If CAP supply costs escalate, these limitations may be more permissive than the Third Management Plan requirements.

Electric Deregulation -The most expensive component of water well operation is the cost of electricity. If the electric industry deregulates, causing rates to substantially increase, CAP water use may increase. If rates decrease, groundwater pumping would likely increase.

Water Availability -The existing supply of groundwater within the Eloy Sub-basin is approximately 21.5 million af. The supply is considered to be adequate for future farming needs.

Water Quality -The quality of the existing supply for agriculture is considered to be good.

MUNICIPAL

Population Growth -The City currently serves a total of 2,362 customers (approximately 81 percent of the existing population) within its certificated area. Regionally, the focus of development has shifted south from the Phoenix Metropolitan Area into Pinal County. Potable water use could significantly increase more than

projected in major growth corridors in the Pinal AMA. While the flat rate structure of the municipal providers does not encourage conservation at the present time, the growth and potential rate increases may prompt more conservation efforts in the future.

Assured Water Supply -The City has an existing groundwater allowance of 1,949 af annually, or 1.74 mgd. Assured Water Supply Rules govern new supplies to serve new development. If the City pursues this designation, it will have to utilize its CAP allocation.

CAP Water Pricing -The cost of CAP water continues to rise dramatically, and now is priced at over \$130 per acre-foot. The charge must be paid for, even if the water is not utilized. The City must use its CAP water to maintain its allocation.

Municipal Recharge -The Pinal County Water Augmentation Authority (PCWAA) administers an adopted recharge program. The City is a participating member of this program to recharge its unused allocation of CAP water. However, the City does not have a recharge facility within its boundaries, but holds approximately 22,000 af of in-lieu credits. These long term storage credits have been earned through storage of excess CAP water at local Groundwater Savings Facilities (GSF).

Water Conveyance System Obsolescence -The City of Eloy maintains an aged distribution system that requires enhancement to reduce water loss. However, the provision that some portion of municipal water returns to the subsurface through leakage, waste, excess use, and irrigation is termed incidental recharge. This amount of water is significant for the City and is credited back to the City's groundwater account.

Groundwater Supply/Quality -The City has a readily available supply of 1,949 acre/feet annually (afa) or 1.74 mgd that exhibits acceptable levels of water quality.

Effluent Use -The City utilizes its treated effluent for farmland irrigation now, but will transition the flow for groundwater recharge in the near future. As quantities increase, the City should continue to utilize this renewable resource to irrigate large public/quasi-public turf areas (i.e. parks, schools, etc.).

INDUSTRIAL

Turf Irrigation Demands -One of the largest industrial users of water in the Pinal AMA includes turf-related facilities. If the population of the City grows, so too will the need for golf courses, parks, and schools. The use of effluent, as identified previously, can be a successful renewable resource for these areas.

Dairy Relocations -The continuing southeastern expansion of the Phoenix Metropolitan Area will force the relocation of dairies to more remote and cost effective locations. The Eloy Sub-basin offers prime areas where available land and water may be attractive, thus increasing demand for water. However, pretreatment of dairy discharge will be required for these facilities if they discharge outside their boundaries.

Power Plant Siting -The proposed siting of a power plant in the extreme southern region of the Eloy Study Area may pose a significant demand for water. It is estimated that annual water needs could range above 10,000 af.

Water Supply Needs -The Eloy Sub-basin contains an available supply of groundwater for industrial needs. Industrial CAP water allocations do not exist. The small amount of effluent, generating a renewable supply,

is currently utilized to irrigate golf courses. Considerations for both CAP water and effluent conveyance systems will assist in utilizing renewable supplies and reducing the reliance on groundwater.

Water Quality -The use of CAP water may be a concern for specific industrial users based on its fluctuating quality levels. If secondary treated effluent is to be utilized for industrial cooling processes, it typically requires pretreatment to remove undesirable elements.

WATER RESOURCES PLAN

The Eloy Sub-basin has a significant inventory of groundwater, estimated to be approximately 22.5 million af down to a depth of 1,000 feet. However, the historic pumping of groundwater in the region has caused substantial declines in the groundwater table, leading to land subsidence and earth fissuring in selected locations. While agricultural use will continue to dominate the demand for water resources, the location of the City within the Pinal AMA, making it subject to the ADWR Third Management Plan, will continue to provide guidance in the transition of groundwater use to renewable water resources to sustain its future water supply. The primary source of renewable surface water for the region is the Tucson Aqueduct (located approximately three miles to the east), which conveys CAP water to Tucson. Other renewable sources, including effluent and stormwater, are minor components of the City's water resources now. However, future population and employment growth, and the corresponding increase in impermeable surface area, will make these sources larger components in the City's water resource equation.

The intent of the Growing Smarter/Plus legislation is to provide a focus on the provision of water to serve the municipal and industrial uses that both exist and are projected to occur in Eloy. The first step is to determine the historic and future need based on the factors identified in the table below, *City of Eloy Water Resource Needs 1995-2020*. The basis for determining the need focuses on the municipal water use in 1995, which amounted to a total of 2,329 af. By the year 2000 it was estimated that the total municipal and industrial (M&I) use of water resources amounted to approximately 2,467 af, representing a 6 percent increase in water use over the 5-year period. The future projections are based on the moderate (i.e. 4.4 percent annual) population growth scenario presented previously in the Land Use Element. The year 2004, 2009, and 2010 milestones represent the first, second, and final components in the Third Management Plan. The residential gpcd rates have been assumed to slightly decrease over time based on increased conservation measures. A 2020 water demand estimate is also presented to provide a long-term water planning perspective.

APP-11: City of Eloy Water Resource Needs 1995-2020:						
Demand Factor	1995	2000⁽⁹⁾	2004⁽⁸⁾	2009⁽⁸⁾	2010⁽⁸⁾	2020
Population	7,502 ¹	10,375 ²	12,320 ³	15,273 ³	15,943 ³	24,500 ³
Residential gpcd	146 ⁴	97 ^{4,9b}	95 ⁵	93 ⁵	91 ⁵	88 ⁵
Non-Residential gpcd	65 ⁶	65 ⁶	65 ⁶	65 ⁶	65 ⁶	65 ⁶
Total gpcd	211	167	160	158	156	153
Subtotal af	1,770	1,883	2,208	2,703	2,786	4,199
Total Demand (in af⁷)	2,467	2,893	3,541	3,650	3,931	3,501

Notes:

1 US Special Census 1995.

2 US Census 2000.

3 Based on the Moderate Growth Rate identified in the Land Use Element.

4 Existing gpcd rates.

5 Residential gpcd reduction rates of the *Third Management Plan* for Eloy.

gpcd = gallons per capita per day / af = acre-feet / Source: URS, September 2001.

6 Non-residential gpcd of the *Third Management Plan* for Eloy.

7 Established by using a straight-line projection from 1995 total water use.

8 First and second intermediate and final gpcd component timeframes.

9 Based on City of Eloy data.

As shown in the table, total demand approximated nearly 2,900 af in the year 2000. Water demand is projected to increase to 3,900 af by the year 2010, representing a 36 percent increase. By the year 2020, the City is expected to require only 3,500 af.

The other half of the demand equation is the provision of resources and the determination that adequate resources exist to accommodate growth in the future. As shown in the table, *City of Eloy Water Resources*, if the City maintained its existing level of groundwater use for the next 20 years, its existing resources would continue to serve its needs (based on the achievement of projected population increases). If the City achieves the moderate reduction (1 percent per year) of groundwater use over the next 20 years, it will require a slight (i.e. 100 af) increase in its resource base. As shown, the provision for additional allocation of CAP water has not been factored into the City's resources at this time. However, it may not be necessary with the small amount of additional resources necessary to serve the 20-year needs. The provision of effluent is expected to increase commensurate with population increases in the City and would be utilized for continued turf and landscape irrigation needs as well as potential recharge, if resources exceed available demand.

APP-12: City of Eloy Water Resources 1995-2020:						
Resource Types	1995	2000	2004	2009	2010	2020
Groundwater	1,770	1,770	1,699	1,611	1,593	1,416
Imported Surface Water (CAP)	2,171	2,171	2,171	2,171	2,171	2,171
Effluent	560	774	919	1,139	1,189	1,828
Surface Water	NA	NA	NA	NA	NA	NA
Total Resources	4,501	4,715	4,789	4,921	4,953	5,415

Source: ADWR Third Management Plan 2000-2010 and URS, September 2001.

APP-13: Demand & Recharge Per Sector		
Sector	Demand (Acre-feet / Year)	Recharge (Acre-feet / Year)
Municipal	32,968	Incidental - 1,319
Industrial	20,243	Incidental - 947
Non-Indian AG	819,894	Incidental - 218,353
Indian	152,925	Incidental 33,471
Riparian	10,602	Natural Recharge - 82,750

Indian Demand includes municipal and agricultural (AG = 152,140 & Muni = 785)
 Source: ADWR Reported Statistics 2006.

While it appears that the City generally exhibits the resources to meet the needs of its future growth, it should also monitor the needs of the existing agricultural and proposed industrial uses. The CAIDD serves the majority of agricultural acreage within the Eloy Study Area. The district has been utilizing less than 50 percent of its acreage, but has satisfied its demand using over 70 percent of CAP water.

The electrical generating station proposed in 2000 was intended to be sited at the extreme southern portion of the study area. While it will have to pursue its own water needs, the potential annual demand could equate to three times the demand currently utilized on an annual basis by the City.

COST OF DEVELOPMENT

REVENUE AND EXPENDITURE SNAPSHOT

Definitions

Revenue

The means, by which, the municipality funds its expenditures.

Expenditure

Government spending from revenues to pay for public goods and services, infrastructure, capital improvements, etc.

Depreciable Assets

Certain types of assets (e.g., plant and equipment) that gradually lose their value over time.

Non-Depreciable Assets

Assets which are of little value or that do not lose their value over time, including land, land improvements, construction in-progress, and infrastructure.

Capital vs. Operating Expenditures

Capital expenditures are those for depreciable assets (roads, water pipes, police cars, and park equipment) while operating expenditures are those that are required for non-depreciable assets (personnel, utilities, and supplies).

Fair Share

As new development occurs municipalities must expand their services, facilities, and infrastructure to meet the demands of increased growth and maintain the public health, safety, and welfare. The 1998 Growing Smarter legislation (Arizona Revised Statutes 9-461.05) enables communities to make sure developments pay their "fair share" of the additional financial burden imposed on the municipal and/or county services and infrastructure through the increase in service use.

Fairness

A community must, in the process of determining a development's "fair share," use some rational nexus in any proposed exaction (whether land or fees).

Mechanisms for Funding

In order to ensure that the City's expenses and revenues remain in balance, despite new development, funding mechanisms need to be explored thoroughly to determine what will be viable for the community and the exaction remain proportionate to the development's imposed burden.

The two tables below help illustrate the cost of new development within the City of Eloy during the budgeted fiscal years (FY) 2008-2009 and FY 2009-2010.

APP-14: City of Eloy Revenues:			
	FY 08-09 Actual	FY 09-10 Budget	Change
	Amount	Amount	Amount
Property Tax Revenue	\$669,080	\$682,450	13,370
General Fund			
City Sales Taxes	\$7,602,103	\$6,510,000	-\$1,092,103
Franchise taxes	\$123,500	\$127,070	\$3,570
Building Permits	\$796,922	\$442,945	-\$353,977
Licenses and Permits	\$50,741	\$54,700	\$3,959
State Shared Sales Taxes	\$1,033,578	\$1,006,230	-\$27,348
Urban Revenue Sharing	\$1,565,166	\$1,639,985	\$74,819
Auto Lieu Tax	\$775,828	\$710,000	-\$65,828
Recreation Fees	\$19,718	\$22,750	\$3,032
Zoning and Subdivision Fees	\$317,347	\$150,000	-\$167,347
Plan Check Review Fees	\$207,565	\$300,000	\$92,435
Outside Reimbursement Fee	\$585	\$5,000	\$4,415
Court Fines	\$327,566	\$310,000	-\$17,566
Library Fines	\$950	\$2,250	\$1,300
Interest Income	\$265,190	\$250,000	-\$15,190
Miscellaneous Revenues	\$446,867	\$518,895	\$72,028
SUBTOTAL	\$13,533,626	\$12,049,825	-\$1,483,801
Special Revenue			
Total HURF	\$2,848,928	\$2,151,595	-\$697,333
Total LTAF	\$75,982	\$88,610	\$12,628
Grants (Infrastructure, Social Services)	\$36,583,800	\$58,698,970	\$22,115,170
Total Impact Fees	\$856,200	\$1,490,500	\$634,300
100-yr water study	\$6,600	\$1,000,000	\$993,400
Water and Sewer Study	\$33,243	\$0	-\$33,243
Toltec Sewer Grant - USDA	\$0	\$2,000,000	\$2,000,000
Cemetery	\$75,605	\$84,400	\$8,795
Airport	\$87,624	\$78,400	-\$9,224
SUBTOTAL	\$40,567,982	\$65,592,475	\$25,024,493
Permanent Funds			
Perpetual Care	\$3,500	\$6,500	\$3,000
Enterprise Funds			
Water	\$1,811,071	\$1,938,380	\$127,309
Sewer	\$1,031,148	\$1,055,160	\$24,012
Sanitation	\$1,212,486	\$1,311,735	\$99,249
SUBTOTAL	\$4,058,205	\$4,311,775	\$253,570
Other			
Interfund Transfers (Enterprise Fund)	\$0	\$2,825,000	\$2,825,000
Other Financing - Special Revenue Funds	\$6,900,000	\$0	-\$6,900,000
SUBTOTAL	\$6,900,000	\$2,825,000	-\$4,075,000
TOTAL	\$65,059,813	\$84,779,075	\$19,719,262

Source: City of Eloy, June 2009

APP-15: City of Eloy Expenditures:				
		FY 08-09 Actual	FY 09-10 Budget	Change
		Amount	Amount	Amount
General Fund				
	City Council	\$218,121	\$237,150	\$19,029
	City Clerk	\$367,502	\$409,390	\$41,888
	City Administration	\$251,425	\$347,200	\$95,775
	City Court	\$291,414	\$238,740	-\$52,674
	City Attorney	\$199,040	\$519,355	\$320,315
	Finance	\$432,171	\$229,095	-\$203,076
	Community Development	\$546,309	\$624,730	\$78,421
	Parks Maintenance	\$272,247	\$297,510	\$25,263
	Recreation	\$595,008	\$732,905	\$137,897
	Library	\$245,326	\$282,310	\$36,984
	Police	\$3,211,554	\$3,716,765	\$505,211
	Vehicle Maintenance	\$222,734	\$294,700	\$71,966
	Facility Maintenance	\$288,384	\$305,415	\$17,031
	Public Works Administration	\$228,016	\$469,590	\$241,574
	Contingency/Debt	\$887,127	\$2,339,025	\$1,451,898
	SUBTOTAL	\$8,256,378	\$11,043,880	\$2,787,502
Special Revenue Funds				
	HURF	\$1,730,853	\$6,603,595	\$4,872,742
	LTAF	\$15,060	\$88,610	\$73,550
	Grants	\$36,400,713	\$58,637,770	\$22,237,057
	JCEF	\$3,640	\$11,200	\$7,560
	Court Recovery	\$52,258	\$65,000	\$12,742
	Parks and Recreation Impact	\$0	\$136,000	\$136,000
	Library Impact	\$0	\$76,000	\$76,000
	Municipal Facility Equipment Impact	\$6,320	\$853,500	\$847,180
	Police Impact	\$28,631	\$166,000	\$137,369
	Water Impact	\$2,500	\$502,000	\$499,500
	Sewer Impact	\$7,548	\$502,000	\$494,452
	Toltec Sewer Grant	\$0	\$2,000,000	\$2,000,000
	Water/Sewer Master Plan	\$33,243	\$100,000	\$66,757
	100 Water Study	\$0	\$1,000,000	\$1,000,000
	WIFI	\$0	\$3,700,000	\$3,700,000
	Capital Equipment	\$244,475	\$1,353,000	\$1,108,525
	Capital Infrastructure	\$702,877	\$1,434,000	\$731,123
	Perpetual Care	\$250	\$6,500	\$6,250
	SUBTOTAL	\$39,228,368	\$70,542,970	\$31,314,602
Enterprise Funds				
	Water	\$1,559,182	\$1,938,380	\$379,198
	Sewer	\$863,589	\$1,115,160	\$251,571
	Sanitation	\$1,201,531	\$1,311,735	\$110,204
	Cemetery & Airport	\$142,403	\$212,800	\$70,397
	SUBTOTAL	\$3,766,705	\$4,578,075	\$811,370
	TOTAL	\$51,251,451	\$86,164,925	\$34,913,474

Source: City of Eloy, June 2009

In FY08-09, the City's revenues and expenditures were balanced with a large surplus of revenue unspent: \$65 million in revenues and \$51.3 million in expenditures, with 14 million in surplus. In FY09-10, both revenues and expenditures were expected to increase significantly. Revenues were forecast to increase to \$84.8 million, while expenditures were expected to increase to \$86.2 million. As a result, the City may face a budget deficit of \$1.4 million in FY09-10.

In terms of revenues sources, the largest expected contributor to revenues in FY09-10 are the anticipated Grant Funds of \$58.7 million (69 percent), marking a huge increase (\$22.1 million) versus FY08-09. At \$6.5 million (7.6 percent), City Sales Tax was expected to be the second largest contributor to the City's revenues, with an expected decrease (\$1.01 million) compared with the previous year. HURF funds were expected to contribute \$2.1 million (2.5 percent), also down significantly (\$0.7 million) compared with the previous year.

The Grants Fund is expected to be the largest expenditure in FY09-10 at \$58.6 million (69 percent), up appreciably (\$22.2 million) compared with the prior year. The City anticipates spending \$3.7 million (4.3 percent) of the General Fund for Police services which is forecast to be the second largest expenditure. The third largest expenditure is a close runner up at 3.7 million for the WIFI.

Legal Issues

Balancing expectations and requirements regarding the provision of public services and facilities with constitutional rights pertaining to private property is a major challenge for local governments. This is particularly true under the Cost of Development Element enabling legislation, which imposes the following requirements on funding mechanisms:

... A beneficial use to the development, bear a reasonable relationship to the burden imposed on the municipality to provide additional necessary public services to the development and are otherwise imposed according to law.

This is a "rational nexus" test that requires a logical, proportional and beneficial relationship among new development, funding mechanisms, and services and infrastructure. In order to meet these requirements, three major issues require careful consideration:

- Enabling Legislation
- Due Process
- Takings

In addition to general attention to these issues, when new funding mechanisms are established in a community, it is strongly advisable to involve legal counsel with significant experience in this area. This is due to the sometimes controversial and litigious nature of constitutional rights and public service requirements.

Enabling Legislation

Any regulation proposed by a municipality must be founded on powers, which have already been granted by the state (or federal) government. This requirement is based on the writings of Judge John F. Dillon, who in 1868 wrote that the power of municipalities was limited to those powers "expressly granted, necessarily or fairly implied, or absolutely indispensable" to the local governments. This is commonly referred to as Dillon's Rule and has been upheld repeatedly in the courts.

In the case of Arizona, the Cost of Development Element provides enabling legislation for a variety of public services and infrastructure funding mechanisms (discussed above). This element forms a foundation from which to impose such mechanisms.

Due Process

Procedural and substantive due process form additional legal hurdles; which must be considered when financing new services and infrastructure. Procedural due process relates to the way in which a municipality adopts regulations. Procedural due process requires consideration of the following three elements: the type of public notice required; the types of public hearings required; and the principles ensuring that the decision-making process is fair and informed.

Substantive due process requires that a regulation be related in a rational manner to the community's goals. In order to avoid problems with substantive due process, it is important that the legislation is clear, precise, and provides reasonable review standards.

Takings

Generally, there must be a “rational nexus” between required land dedications or cash payments (e.g., development fees) and the actual impact created by a project. Furthermore, the size of dedications or cash payments must be proportional to the need created by a development. These requirements are based on the U.S. Constitution, in particular; the Fifth Amendment; and the Fourteenth Amendment.

While the law is complex and ever-evolving concerning this issue, two U.S. Supreme Court cases form the foundation for the current legal environment: *Nollan v. California Coastal Commission* [483 U.S. 825 (1987)] and *Dolan v. City of Tigard* 512 U.S. 687 (1994)].