

## **NOTICE OF PUBLIC HEARING ON LAND USE ASSUMPTIONS AND INFRASTRUCTURE IMPROVEMENT PLAN**

Pursuant to A.R.S § 9-463.05, public notice is hereby given that the Gilbert Town Council will hold a public hearing to discuss and review an update to the water and wastewater system development fees (SDFs) charged by the Town. The public hearing will be held on Thursday, June 15, 2017, at 6:30 pm in the Town Council Chambers (50 E. Civic Center Drive, Gilbert). The Council will approve or disapprove the updated system development fees at a Council Meeting to be held on Thursday, August 3, 2017, in the Town Council Chambers.

A copy of the adopted land use assumptions, infrastructure improvements plan, and proposed system development fees is attached to this notice and also published on the Town's website ([www.gilbertaz.gov](http://www.gilbertaz.gov)) under the System Development Fees section of the Transparency Portal.

Questions related to the proposed system development fees should be directed to Kelly Pfof, Budget Director, at [Kelly.Pfof@gilbertaz.gov](mailto:Kelly.Pfof@gilbertaz.gov) or 480-503-6828.

Posted April 17, 2017



**LAND USE ASSUMPTIONS,  
INFRASTRUCTURE IMPROVEMENTS PLAN,  
AND DEVELOPMENT FEES  
FOR WATER & WASTEWATER FACILITIES**

*Prepared for:*

*Town of Gilbert, Arizona*

*March 22, 2017*

**TischlerBise**

FISCAL | ECONOMIC | PLANNING

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## EXECUTIVE SUMMARY

The Town of Gilbert hired TischlerBise to document land use assumptions, prepare an Infrastructure Improvements Plan (IIP), and update water and wastewater development fees pursuant to Arizona Revised Statutes 9-463.05. Municipalities in Arizona may assess development fees to offset infrastructure costs to a municipality for necessary public services. The development fees must be based on an Infrastructure Improvements Plan (IIP) and Land Use Assumptions. The IIP for each type of infrastructure is in the middle section of this document and the land use assumptions may be found in Appendix C.

Water and wastewater fees are one-time payments used to construct utility system improvements needed to accommodate new development. The fee represents future development's proportionate share of infrastructure costs. Development fees may be used for infrastructure improvements and/or debt service for growth-related infrastructure. In contrast to primary property taxes, development fees may not be used for operations, maintenance, replacement or correcting existing deficiencies.

## ARIZONA DEVELOPMENT FEE ENABLING LEGISLATION

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Arizona Revised Statutes (ARS) 9-463.05, Arizona's development fee enabling legislation, governs how development fees are calculated for municipalities in Arizona. During the 2011 State legislative session, Senate Bill 1525 was introduced, and ultimately passed into law, which significantly amended the development fee enabling legislation. Key changes included:

- Amending existing development fee programs by January 1, 2012;
- Abandoning existing development fee programs by August 1, 2014;
- Development fee based on adopted land use assumptions and IIP;
- New adoption procedures;
- New definitions, including "necessary public services" to specify types of infrastructure that may be funded with development fees;
- Time limitations in development fee collections and expenditures; and,
- New requirements for credits, "grandfathering" rules, and refunds.

This update of the Town's water and wastewater development fees complies with all of the requirements of Arizona's Development Fee Statute as amended by SB 1525.

### *Necessary Public Services*

According to Arizona's development fee enabling legislation, fees may be only used for construction, acquisition, or expansion of public facilities that are necessary public services. "Necessary public service" means any of the following categories of facilities that have a life expectancy of three or more years and that are owned and operated on behalf of the municipality: water, wastewater, storm water, drainage and flood control facilities, library, streets, fire and police, neighborhood parks and

recreational facilities. Additionally, a necessary public service includes any facility that was financed before June 1, 2011 and that meets the following requirements:

- Development fees were pledged to repay debt service obligations related to the construction of the facility
- After August 1, 2014, any development fees collected are used solely for the payment of principal and interest on the portion of the bonds, notes, or other debt service obligations issued before June 1, 2011 to finance construction of the facility.

### ***Infrastructure Improvements Plan***

Development fees must be calculated pursuant to an IIP and shall include:

- A description of the existing necessary public services in the service area and the cost to update, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed on this state, as applicable.
- An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.
- A description of all or the parts of the necessary public services or facility expansion and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in the state, as applicable.
- A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial.
- The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria.
- The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years (fifteen years for utilities).
- A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved land use assumptions and a plan to include these contributions in determining the extent of the burden imposed by the development.

### **Qualified Professionals**

Qualified professionals must develop the IIP using general accepted engineering and planning practices. A qualified professional is defined as “a professional engineer, surveyor, financial analyst, or planner providing services within the scope of the person’s license, education, or experience.”

TischlerBise is a fiscal, economic, and planning consulting firm specializing in the cost of growth services. Our services include development fees, fiscal impact analysis, infrastructure funding, user fee and cost of service studies, capital improvement plans, and fiscal software. TischlerBise has prepared over 900 development fee studies over the past 37 years for local governments across the United States.

### **SUMMARY OF CURRENT AND PROPOSED WATER AND WASTEWATER DEVELOPMENT FEES**

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Development fees for water and wastewater must be based on the same level of service provided to existing development in the service area. There are two general methods for calculating water and wastewater development fees. The choice of a particular method depends primarily on the timing of infrastructure construction (past or future). Each method has advantages and disadvantages in a particular situation, and can be used simultaneously for different cost components. Reduced to its simplest terms, the process of calculating development impact fees involves two main steps: (1) determining the cost of development-related capital improvements and (2) allocating those costs equitably to various types of development. In practice, though, the calculation of development fees is complicated due to many variables involved in defining the relationship between development and the need for facilities within the designated service area. The following paragraphs discuss three basic methods for calculating development fees and how those methods can be applied.

- Cost recovery is used in instances when a community has oversized a water/wastewater facility or asset in anticipation of future development. This methodology is based on the rationale that new development is repaying the community for its share of the remaining unused capacity.
- Plan-based method utilizes a community’s IIP and/or other adopted plans, or engineering studies, to determine water/wastewater capital improvements needed to serve new development.

### **Evaluation of Credits**

Regardless of the methodology, a consideration of “credits” is integral to the development of a legally defensible development fee that conforms to the Arizona Development Fee Statute, as well as national case law. There are two types of “credits” that should be addressed in development fee studies and ordinances. The first is a revenue credit due to possible double payment situations, which could occur when other revenues may contribute to the capital costs of infrastructure covered by the development fee. This type of credit is integrated into the fee calculation, thus reducing the fee amount. The second is a site-specific credit or developer reimbursement for dedication of land or construction of system improvements. This type of credit is addressed in the administration and implementation of the

development fee program. For ease of administration, TischlerBise normally recommends developer reimbursements for system improvements.

Current and proposed development fees for water and wastewater facilities are summarized in Figure 1. There is a fee schedule for development in the Neely Service Area (north Gilbert) and the Greenfield Service Area (south Gilbert).

**Figure 1 – Current and Proposed Fees for Utilities**

**Neely Service Area**

<b>All Development (by water meter size)</b>	<i>Water System &amp; Resource</i>	<i>Waste- water</i>	<i>Total Proposed Fee</i>	<i>Current Total Fee</i>	<i>\$ Change</i>	<i>% Change</i>
Meter Size (inches)						
0.75	\$6,286	\$1,933	\$8,219	\$9,077	(\$858)	-9%
1.00	\$10,495	\$3,226	\$13,721	\$15,156	(\$1,435)	-9%
1.50	\$20,925	\$6,431	\$27,356	\$30,216	(\$2,860)	-9%
2.00	\$33,491	\$10,292	\$43,783	\$48,361	(\$4,578)	-9%

**Greenfield Service Area**

<b>All Development (by water meter size)</b>	<i>Water System &amp; Resource</i>	<i>Waste- water</i>	<i>Total Proposed Fee</i>	<i>Current Total Fee</i>	<i>\$ Change</i>	<i>% Change</i>
Meter Size (inches)						
0.75	\$6,286	\$3,182	\$9,468	\$9,916	(\$448)	-5%
1.00	\$10,495	\$5,313	\$15,808	\$16,558	(\$750)	-5%
1.50	\$20,925	\$10,593	\$31,518	\$33,011	(\$1,493)	-5%
2.00	\$33,491	\$16,953	\$50,444	\$52,835	(\$2,391)	-5%

Please note, calculations throughout this Report are based on an analysis conducted using Excel software. Results are discussed in the memo using one-and two-digit places (in most cases), which represent rounded figures. However, the analysis itself uses figures carried to their ultimate decimal places; therefore, the sums and products generated in the analysis may not equal the sum or product if the reader replicates the calculation with the factors shown in the report (due to the rounding of figures shown, not in the analysis).



## WATER FACILITIES IIP

ARS 9-463.05.T.7 (a) defines the facilities and assets which can be included as, “Water facilities, including the supply, transportation, treatment, purification and distribution of water, and any appurtenances for those facilities.” The Water Facilities IIP includes additional water resources, wells, treatment, storage and major lines.

## WATER SERVICE AREA AND SERVICE UNITS

Potable water is supplied via an interconnected grid to all areas of Gilbert. New development in all areas of Gilbert will benefit from the planned improvements. Gilbert has one, town-wide service area for water. Average day gallons of potable water are the service units for water development fees.

## CURRENT USE AND AVAILABLE CAPACITY

Water use by current customers was determined from the Town’s utility billing records. The number of water customers and use for FY2016 is shown in Figure W1. As shown in Figure W1, the City of Gilbert had an estimated 80,485 connections with average daily demand of 40.7 million gallons per day in FY16. This equates to average daily demand of 404 gallons per day per residential connection and 2,532 gallons per day per nonresidential connection. It also equates to 139 gallons per day per job. To project nonresidential connections, TischlerBise derived a nonresidential water connections per job factor of .04. This was derived by comparing current nonresidential connections to the current employment estimate.

**Figure W1. Average Day Water System Demand**

	Average Gallons Per Day	Connections	Gallons Per Day Per Connection
<b>FY2016</b>			
Residential	30,928,389	76,600	404
Nonresidential	9,835,477	3,885	2,532
<b>TOTAL</b>	<b>40,763,866</b>	<b>80,485</b>	
Nonresidential Connections per Job:**		0.04	
Gallons per Day per Person:*		139	
Gallons per Day per Job:		105	

\* Gallons per capita per day based on single family 2.91 persons per housing unit from US Census 2011-2015 American Community Survey 5-Year estimate

\*\*Based on employment estimate of 93,840

Current average day water demand is estimated at 44.01 million gallons per day (MGD). (It is noted that this is different than the actual utility billing data in the figure above, which was utilized to determine demand factors. This is because the amount of water billed doesn’t equal the amount of water

produced/supplied, and the data shown in Figure W2 is at the end of the calendar year. This does not influence the fee calculations). However, peak day demand can reach 63 MGD. Over the next ten years, Gilbert’s average daily water demand is expected to increase from 44.01 MGD in 2016 to 53.97 MGD in 2026. Based on the projected average day demand for water, Gilbert staff determined that additional growth-related improvements are necessary. This projection was derived using the factors outlined in the discussion above, as well as shown in blue shading in Figure W2. Gallons per person and gallons per job factors were applied to the projected population and employment. As shown in Figure W2, residential demand is projected to increase by 7.6 million gallons per day and nonresidential demand is projected to increase by 2.35 million gallons per day.

**Figure W2– Projected Water Demand**

Year	Projected Residential Connections	Projected Nonres. Connections	Total Projected Connections	Million Gallons Per Avg Day	Annual Increase				
					Population	MGD	Jobs	MGD	MGD
Base FY15-16	76,600	3,885	80,485	44.01					
Future1 FY16-17	78,046	3,965	82,011	44.89	4,884	0.68	1,940	0.20	<b>0.88</b>
Future2 FY17-18	79,528	4,046	83,574	45.79	5,006	0.69	1,940	0.20	<b>0.90</b>
Future3 FY18-19	81,047	4,126	85,173	46.70	5,131	0.71	1,940	0.20	<b>0.92</b>
Future4 FY19-20	82,605	4,206	86,811	47.64	5,262	0.73	1,940	0.20	<b>0.93</b>
Future5 FY20-21	84,202	4,308	88,510	48.64	5,394	0.75	2,450	0.26	<b>1.01</b>
Future6 FY21-22	85,840	4,409	90,249	49.67	5,533	0.77	2,450	0.26	<b>1.02</b>
Future7 FY22-23	87,519	4,511	92,030	50.71	5,672	0.79	2,450	0.26	<b>1.04</b>
Future8 FY23-24	89,242	4,612	93,854	51.78	5,818	0.81	2,450	0.26	<b>1.06</b>
Future9 FY24-25	91,008	4,713	95,721	52.86	5,967	0.83	2,450	0.26	<b>1.08</b>
Future10 FY25-26	92,820	4,815	97,635	53.97	6,121	0.85	2,450	0.26	<b>1.11</b>
					<b>54,788</b>	<b>7.60</b>	<b>22,460</b>	<b>2.35</b>	<b>9.96</b>

Nonresidential Connections per Job:	0.04
Gallons per Day per Job:	105
Gallons per Day per Person:	139

**Excluded Costs**

Development fees in Gilbert exclude costs to upgrade, update, improve, expand, correct or replace water infrastructure to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards. Gilbert’s comprehensive Capital Improvement Plan (CIP) includes the cost of these excluded items and have been adjusted accordingly.

**NEED FOR WATER FACILITIES**

Figure W3 organizes infrastructure improvements into two general categories: Water Resources and Wells/Storage/Lines. Gilbert will acquire an additional 11.74 MGD of surface water rights, costing \$3.87 per gallon of capacity (\$54,471,000 less current impact fee balance credit of \$8,950,000 divided by 11,740,000 gallons). As shown at the bottom of the table below, wells/storage/major lines over the next ten years have a total cost of \$60.2 million. These projects will increase water capacity by 14 MGD, for a cost of \$4.30 per gallon of capacity (\$60,220,721 divided by 14,000,000 gallons). Based on the ten-year projection of water demand, it is projected that the approximately \$38.6 million of the total cost basis

**Land Use Assumptions, IIP and Water/Wastewater Development Fees**

Town of Gilbert, AZ

will be recovered over the next ten years for water resources and \$42.8 million for wells, storage and lines.

**Figure W3 – Water IIP Summary**

<b>Water Resources</b>								
#	Description	FY16-17	FY17-18	FY18-19	FY19-20	FY20-21	Years 6-10	Total Project
WA083	Water Rights (1,013 ac-ft per yr)	\$10,500,000						\$10,500,000
WA094	Water Rights Phase II (4,350 ac-ft per yr)	\$4,710,000	\$12,940,000	\$2,390,000	\$10,160,000			\$30,200,000
WA098	Tribal 100 Year Water Rights (5,950 ac-ft per yr)	\$11,000,000						\$11,000,000
WA106	NIA Priority CAP Water Acquisition (1,832 ac-ft per yr)	\$750,000	\$700,000	\$711,000	\$610,000			\$2,771,000
<b>Total</b>		<b>\$26,960,000</b>	<b>\$13,640,000</b>	<b>\$3,101,000</b>	<b>\$10,770,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$54,471,000</b>
Less Current Fee Balance:								\$8,950,000
<b>Net IIP Cost</b>								<b>\$45,521,000</b>
Gallons of Capacity per Day =>								11,740,000
Cost per Gallon of Capacity =>								<b>\$3.87</b>
Ten-Year Increase in Gallons per Average Day								9,960,000
Ten-Year Share of Cost								\$38,620,000

<b>Wells, Storage, and Lines</b>								
#	Description	FY16-17	FY17-18	FY18-19	FY19-20	FY20-21	Years 6-10	Total Project
WA027	2 mgd Well and Reservoir and Pump Station				\$260,000		\$13,164,000	\$13,424,000
WA062	Reservoir, Pump Station and Well Conversion (4 mgd)**	\$22,215,721						\$22,215,721
WA067	Zone 2 to 4 Interconnect		\$351,000	\$657,000				\$1,008,000
WA071	Ray and Recker Well (2 mgd)	\$328,000	\$5,783,000					\$6,111,000
WA080	Bridges Well Equipping - Recker and Ocotillo (2 mgd)				\$4,755,000			\$4,755,000
WA081	Direct System Well (2 mgd)						\$5,932,000	\$5,932,000
WA088	Trend Homes Direct System Well Conversion (2 mgd)	\$1,544,000	\$5,231,000					\$6,775,000
<b>Total</b>		<b>\$24,087,721</b>	<b>\$11,365,000</b>	<b>\$657,000</b>	<b>\$5,015,000</b>	<b>\$0</b>	<b>\$19,096,000</b>	<b>\$60,220,721</b>
Gallons of Capacity per Day =>								14,000,000
Cost per Gallon of Capacity =>								<b>\$4.30</b>
Ten-Year Increase in Gallons per Average Day								9,960,000
Ten-Year Share of Cost								\$42,840,000

\*\*Includes interest cost and reoffering premium

**NEED FOR WATER TREATMENT**

The Town’s San Tan Water Treatment Facility is a two-phase project for providing water treatment. The 12 MGD first phase, constructed in 2009, has 6 MGD of remaining capacity available, which is not enough to serve projected demand over the next ten years. Therefore, a second phase is planned that will add an additional 12 MGD of capacity. As shown in Figure W4, the remaining principal and interest associated with Phase I is \$91,303,474 and the principal and interest on Phase II is estimated a \$49,590,263, for a total cost basis of \$140,893,737. The Town has \$7,830,000 in existing development fees that are credited against this cost, for a net growth-related cost basis of \$133,063,737. When this cost is compared to the existing and planned capacity (18 MGD), the cost per gallon of capacity is \$7.39. Based on the ten-year projection of water demand, it is projected that the approximately \$73.6 million of the total cost basis will be recovered over the next ten years.

**Figure W4 – San Tan Water Treatment Cost**

<b>Cost of Remaining and Future San Tan Water Treatment</b>	
Remaining Principal and Interest - Phase I	\$91,303,474
Future Principal and Interest - Phase II	\$49,590,263
<b>TOTAL PRINCIPAL AND INTEREST</b>	<b>\$140,893,737</b>
Credit for Existing Fee Balance	\$7,830,000
<b>NET GROWTH-RELATED PRINCIPAL AND INTEREST</b>	<b>\$133,063,737</b>
Remaining (6 mgd) and Planned Capacity (12 mgd)	18,000,000
Cost per Gallon of Capacity	<b>\$7.39</b>
Ten-Year Increase in Gallons per Average Day	9,960,000
Ten-Year Share of Cost	\$73,630,000

**PROPOSED WATER DEVELOPMENT FEE**

Figure W5 summarizes capital cost factors for the water development fee. The first three line items are for future improvements in the IIP, as discussed above. Based on a review of the Town’s utility accounts and average day consumption, the Town of Gilbert supplies average day demand of 404 average day gallons of water for an Equivalent Residential Unit (ERU). The additional fee amounts for larger meters are derived using capacity ratios from the American Water Works Association.

**Figure W5 – Water Development Fees**

<b>Input Variables</b>	<i>Cost per Gallon of Average Day Capacity</i>				
Water Resources	\$3.87				
Water Treatment	\$7.39				
Wells, Storage, and Lines	\$4.30				
Capital Cost per Gallon of Capacity =>	\$15.56				
Average Day Gallons of Demand per ERU =>	404				
IIP and Development Fee Preparation Cost per Meter =>	\$2.63				
<b>All Development (per meter)</b>					
<i>Meter Size (inches)*</i>	<i>Capacity Ratio</i>	<i>Proposed Water Fee</i>	<i>Current Fee</i>	<i>\$ Change</i>	<i>Percent Change</i>
0.75	1.00	\$6,286	\$5,901	\$385	7%
1.00	1.67	\$10,495	\$9,854	\$641	7%
1.50	3.33	\$20,925	\$19,646	\$1,279	7%
2.00	5.33	\$33,491	\$31,444	\$2,047	7%

\* Fees for meters larger than two inches will be based on annualized average day demand and the net capital cost per gallon of capacity.

**FORECAST OF REVENUES**

Appendix A provides the forecast of revenues required by Arizona’s enabling legislation.

**Projected Revenue for Water Facilities**

Since multifamily units are not individually metered, residential revenue is estimated by multiplying the population projection by the total capital cost per gallon (\$15.56) multiplied by average daily consumption per person (139 gallons). For nonresidential development, it is impossible to project how many connections by meter size will occur. Therefore, we estimated nonresidential revenue by multiplying the employment projection by the total capital cost per gallon (\$15.56) multiplied by average daily consumption per job (105 gallons).

Over the next ten years, Gilbert has identified a need for approximately \$155 million in growth-related water improvements over the next ten years, including \$38.6 million in additional water resources, \$73.6 million in cost recovery for water treatment capacity, and \$42.8 million for wells, storage, and major lines. As shown at the bottom of Figure W6, projected water fee revenue totals \$154.9 million over ten years.

**Figure W6 – Water Fee Revenue Forecast**

**Ten-Year Growth-Related Costs for Water Facilities**

Water Resources	\$38,620,000
Water Treatment	\$73,630,000
Wells, Storage, and Lines	\$42,840,000
<b>Total</b>	<b>\$155,090,000</b>

Year		Residential \$2,159 Per Person	Nonresidential \$1,631 Per Job
Base	FY15-16	251,065	93,840
Year 1	FY16-17	255,949	95,780
Year 2	FY17-18	260,955	97,720
Year 3	FY18-19	266,086	99,660
Year 4	FY19-20	271,348	101,600
Year 5	FY20-21	276,742	104,050
Year 6	FY21-22	282,275	106,500
Year 7	FY22-23	287,947	108,950
Year 8	FY23-24	293,765	111,400
Year 9	FY24-25	299,732	113,850
Year 10	FY25-26	305,853	116,300
<b>Ten-Yr Increase</b>		<b>54,788</b>	<b>22,460</b>
Projected Fees =>		\$118,300,000	\$36,630,000
<b>Total Projected Revenues (rounded) =&gt;</b>		<b>\$154,930,000</b>	

## WASTEWATER FACILITIES IIP

ARS 9-463.05.T.7 (b) defines the wastewater facilities as “Wastewater facilities, including collection, interception, transportation, treatment, and disposal of wastewater, and any appurtenances for those facilities.” The wastewater facilities development fee includes cost recovery for components with surplus capacity and the growth-related cost of planned improvements.

## EXISTING FACILITIES AND SERVICE AREAS

The Town has two wastewater service areas, with north Gilbert served by the Neely Water Reclamation Facility (WRF) and south Gilbert served by the Greenfield plant. Separate IIPs and fee schedules have been prepared for both service areas.

## CURRENT WASTEWATER USE AND AVAILABLE CAPACITY

The City of Gilbert does not meter wastewater accounts. However, we do know that average day wastewater flows are approximately 35.1% of water flows. Therefore, TischlerBise applied this factor to the City’s water consumption as proxy for wastewater demand. As shown in Figure WW1, the City of Gilbert had an estimated average daily wastewater demand of 14.3 million gallons per day in FY16. This equates to average daily demand of 148 gallons per day per residential connection and 1,814 gallons per day per nonresidential connection. It also equates to 37 gallons per day per job. To project nonresidential connections, TischlerBise derived a nonresidential connection per job factor of .02. This was derived by comparing current nonresidential connections to the current employment estimate.

**Figure WW1. Average Day Wastewater System Demand**

	Average Gallons Per Day#	Connections	Gallons Per Day Per Connection
<b>FY2016</b>			
Residential	10,855,865	73,366	148
Nonresidential	3,452,252	1,903	1,814
TOTAL	14,308,117	75,269	
Nonresidential Connections per Job:**		0.02	
Gallons per Day per Person:*		51	
Gallons per Day per Job:		37	

\* Gallons per capita per day based on single family 2.91 persons per housing unit from US Census 2011-2015 American Community Survey 5-Year estimate

\*\*Based on employment estimate of 93,840

#Wastewater consumption is assumed to be 35.1% of wastewater consumption

Current average day wastewater demand is estimated at 14.3 MGD. Over the next ten years, Gilbert’s average daily wastewater demand is expected to increase from 14.3 MGD in 2016 to 17.91 MGD in

2026. Based on the projected demand for wastewater, Gilbert staff determined that additional growth-related improvements are necessary. This projection was derived using the factors outlined in the discussion above, as well as shown in blue shading in Figure WW2. Gallons per person and gallons per job factors were applied to the projected population and employment. As shown in Figure WW2, residential demand is projected to increase by 2.79 million gallons per day and nonresidential demand is projected to increase by 0.83 million gallons per day.

**Figure WW2 – Wastewater Connections and Average Day Gallons**

Year	Projected Residential Connections	Projected Nonres. Connections	Total Projected Connections	Million Gallons Per Avg Day	Annual Increase				
					Population	MGD	Jobs	MGD	MGD
Base FY15-16	76,600	3,885	80,485	14.30					
Future1 FY16-17	78,046	3,924	81,970	14.62	4,884	0.25	1,940	0.07	<b>0.32</b>
Future2 FY17-18	79,528	3,964	83,492	14.95	5,006	0.25	1,940	0.07	<b>0.33</b>
Future3 FY18-19	81,047	4,003	85,050	15.28	5,131	0.26	1,940	0.07	<b>0.33</b>
Future4 FY19-20	82,605	4,042	86,647	15.62	5,262	0.27	1,940	0.07	<b>0.34</b>
Future5 FY20-21	84,202	4,092	88,294	15.98	5,394	0.27	2,450	0.09	<b>0.36</b>
Future6 FY21-22	85,840	4,142	89,982	16.35	5,533	0.28	2,450	0.09	<b>0.37</b>
Future7 FY22-23	87,519	4,191	91,710	16.73	5,672	0.29	2,450	0.09	<b>0.38</b>
Future8 FY23-24	89,242	4,241	93,483	17.12	5,818	0.30	2,450	0.09	<b>0.39</b>
Future9 FY24-25	91,008	4,291	95,299	17.51	5,967	0.30	2,450	0.09	<b>0.39</b>
Future10 FY25-26	92,820	4,340	97,160	17.91	6,121	0.31	2,450	0.09	<b>0.40</b>
					<b>54,788</b>	<b>2.79</b>	<b>22,460</b>	<b>0.83</b>	<b>3.61</b>

Nonresidential Connections per Job:	0.02
Gallons per Day per Job:	37
Gallons per Day per Person:	51

## NEED FOR WASTEWATER FACILITIES

### Excluded Costs

Development fees in Gilbert exclude costs to upgrade, update, improve, expand, correct or replace wastewater infrastructure to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards. Gilbert’s comprehensive Capital Improvement Plan (CIP) includes the cost of these excluded items and have been adjusted accordingly.

### Neely Service Area

Neely WRF has sufficient capacity for projected development over the next ten years. Therefore, the wastewater development fee for the Neely Service Area includes a cost recovery component for available capacity in the Neely plant. As shown in Figure WW3 the latest expansion (2.5 mgd) of the northern plant had a total cost of \$27.49 million. From this amount is a deduction of \$2,350,000 for existing impact fees, for a net cost of \$25,143,968. When this cost is compared to the capacity provided by this expansion (2.5 mgd), this results in a cost of \$10.05 per gallon of capacity. Based on the ten-year projection of wastewater demand, it is projected that the approximately \$9.4 million of the total cost basis will be recovered over the next ten years.

**Figure WW3 – Wastewater Reclamation Cost in Neely Service Area**

Total Cost	\$27,493,968
Credit for Existing Fee Balance	\$2,350,000
<b>Growth-Related Principal and Interest</b>	<b>\$25,143,968</b>
Additional Capacity (average day gallons)	2,500,000
Cost per Gallon of Capacity	<b>\$10.05</b>
Ten-Year Increase in Gallons per Average Day	934,657
Ten-Year Share of Cost	\$9,400,000

**Greenfield Service Area**

The Greenfield Water Reclamation Facility is a three-phase project for providing treating wastewater. The second phase, constructed in 2007, has 1.8 MGD of remaining capacity available, which is not enough to serve projected demand over the next ten years. Therefore, a third phase is planned that will add an additional 4 MGD of capacity. As shown in Figure WW4, the remaining principal and interest associated with the original plant is \$21,509,345 and the principal and interest on Phase III is estimated at \$68,778,884, for a total cost basis of \$90,288,229. From this amount is deducted the current Greenfield impact fee balance of \$13,520,000, for net growth-related cost of \$76,768,229. When this cost is compared to the existing and planned capacity (5.8 MGD), the cost per gallon of capacity is \$13.23. Based on the ten-year projection of wastewater demand, it is projected that the approximately \$35.4 million of the total cost basis will be recovered over the next ten years.



**Figure WW4 – Wastewater Treatment Cost in Greenfield Service Area**

<b>Cost of Remaining and Future Greenfield Water Reclamation Plant</b>	
Growth Related Cost associated with Original Plant*	\$21,509,345
Future Principal (\$50,000,000) and Interest - Phase III**	\$68,778,884
<b>TOTAL PRINCIPAL AND INTEREST</b>	<b>\$90,288,229</b>
Credit for Existing Fee Balance	\$13,520,000
<b>NET GROWTH-RELATED PRINCIPAL AND INTEREST</b>	<b>\$76,768,229</b>
Remaining (1.8 mgd) and Additional Phase III Capacity (4 mgd)	5,800,000
Cost per Gallon of Capacity	<b>\$13.23</b>
Ten-Year Increase in Gallons per Average Day	2,677,495
Ten-Year Share of Cost	\$35,440,000

\*Assumes prorated share of \$95,538,490 (\$82,504,168 + interest of \$13,034,322) original cost for 8 mgd, compared to remaining capacity of 1.8 mgd

\*\*Assumes 20-year bond at an interest rate of 3.25%

## NEED FOR WASTEWATER COLLECTION AND RECLAIMED WATER REUSE/RECHARGE FACILITIES

### Neely Service Area

In the north (Neely) service area, Gilbert will replace an existing lift station and force main, with the new facilities sized to accommodate the ultimate capacity of the Neely plant. This lift station has a cost of \$995,000, which represents the growth share of this project, which is estimated at 10%. There are also plans for an additional recovery well at a cost of \$1,806,000. The City of Gilbert currently averages 37 gallons of average daily wastewater flow for every job and 51 gallons per day for every person. Assuming these averages hold constant, the projected increase in Neely Service Area population and jobs should increase wastewater flow by approximately 934,657 gallons over the next ten years. The costs for these improvements are allocated to the ten-year increase in wastewater flow, yielding a cost of \$1.06 per gallon for the lift station component and \$1.93 per gallon for the recovery well, as shown in Figure WW5.

**Figure WW5– Wastewater IIP in Neely Service Area**

**Wastewater Collection System - Neely**

#	Description	FY16-17	FY17-18	FY18-19	FY19-20	FY20-21	Years 6-10	Total Project
WW070	Candlewood Lift Station & Force Main (10% growth-related)	\$226,000	\$769,000					\$995,000
<b>Total</b>		<b>\$226,000</b>	<b>\$769,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$995,000</b>
Ten-Year Increase in Gallons of Demand per Day =>								934,657
Cost per Gallon of Demand =>								<b>\$1.06</b>

**Reclaimed Water Reuse/Recharge - Neely**

#	Description	FY16-17	FY17-18	FY18-19	FY19-20	FY20-21	Years 6-10	Total Project
WW089	Recovery Well - Elliot Dist. Park			\$1,806,000				\$1,806,000
<b>Total</b>		<b>\$0</b>	<b>\$0</b>	<b>\$1,806,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,806,000</b>
Ten-Year Increase in Gallons of Demand per Day =>								934,657
Cost per Gallon of Demand =>								<b>\$1.93</b>

**Greenfield Service Area**

Planned wastewater reuse/recharge improvements in the south (Greenfield) service area are shown in Figure WW6. In a similar manner, the ten-year increase in population and jobs should increase wastewater flow in the Greenfield Service Area by 2.67 MGD over the next ten years. The total cost of planned improvements (\$22,125,000) allocated to the increase in wastewater flow, yields a cost of \$8.26 per gallon.

**Figure WW6– Wastewater IIP in Greenfield Service Area**

**Reclaimed Water Reuse/Recharge - Greenfield**

#	Description	FY16-17	FY17-18	FY18-19	FY19-20	FY20-21	Years 6-10	Total Project
WW072	Germann and Higley 18" Main	\$905,000	\$4,511,000					\$5,416,000
WW077	South Recharge Site Phase III	\$1,841,000	\$4,932,000					\$6,773,000
WW078	Pump Station Expansion	\$860,000						\$860,000
WW094	Recharge Facility/South Area						\$9,076,000	\$9,076,000
<b>Total</b>		<b>\$3,606,000</b>	<b>\$9,443,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$9,076,000</b>	<b>\$22,125,000</b>
Ten-Year Increase in Gallons of Demand per Day =>								2,677,495
Cost per Gallon of Demand =>								<b>\$8.26</b>

**WASTEWATER DEVELOPMENT FEES IN NEELY SERVICE AREA**

Proposed development fees for wastewater facilities in the Neely Service Area are shown in Figure WW7. For nonresidential development, the fee is equal to the net capital cost per gallon of capacity multiplied by the average day ERU demand factor of 148 gallons of wastewater flow. For meters larger

than 0.75 inches, a capacity ratio converts the fee per ERU to a proportionate fee based on hydraulic capacity.

**Figure WW7– Neely Wastewater Development Fee Schedule**

		<i>Cost per Gallon of Average Day Capacity</i>			
<b>Neely Service Area</b>					
	Cost Recovery for Wastewater Treatment				\$10.05
	Wastewater Collection System IIP				\$1.06
	Reclaimed Water Reuse/Recharge IIP				\$1.93
	Capital Cost per Gallon of Capacity				\$13.05
	IIP and Development Fee Preparation Cost per Customer =>				\$2.63
	Average Day Gallons of Demand per ERU =>				148
<b>All Development (per meter)</b>					
Meter Size (inches)*	Capacity Ratio	Proposed Sewer Fee	Current Fee	\$ Change	Percent Change
0.75	1.00	\$1,933	\$3,176	(\$1,243)	-39%
1.00	1.67	\$3,226	\$5,302	(\$2,076)	-39%
1.50	3.33	\$6,431	\$10,570	(\$4,139)	-39%
2.00	5.33	\$10,292	\$16,917	(\$6,625)	-39%

\* Fees for meters larger than two inches will be based on annualized average day demand and the net capital cost per gallon of capacity.

## FORECAST OF REVENUES

Appendix A provides the forecast of revenues required by Arizona’s enabling legislation.

### Development Fee Revenue in Neely Service Area

Since multifamily units are not individually metered, residential revenue is estimated by multiplying the population projection by the total capital cost per gallon (\$13.05) multiplied by average daily consumption per person (51 gallons). For nonresidential development, it is impossible to project how many connections by meter size will occur. Therefore, we estimated nonresidential revenue by multiplying the employment projection by the total capital cost per gallon (\$13.05) multiplied by average daily wastewater consumption per job (37 gallons).

Over the next ten years, Gilbert has identified a need for approximately \$12.2 million in growth-related wastewater improvements in the Neely service area, including \$9.4 million in cost recovery for wastewater treatment, \$995,000 for the wastewater collection system, and \$1.80 million for reuse and recharge improvements. As shown at the bottom of Figure WW8, projected wastewater fee revenue over the next ten years total \$12.19 million in the Neely service area.

Figure WW8 – Projected Neely Sewer Fee Revenue

**Ten-Year Growth-Related Costs for Neely Service Area Wastewater Facilities**

Wastewater Treatment	\$9,400,000
Wastewater Collection System	\$995,000
Reclaimed Water Reuse/Recharge	\$1,806,000
<b>Total</b>	<b>\$12,201,000</b>

Year		Residential \$663 Per Person	Nonresidential \$480 Per Job
Base	FY15-16	138,062	59,448
Year 1	FY16-17	139,443	60,080
Year 2	FY17-18	140,837	60,712
Year 3	FY18-19	142,245	61,344
Year 4	FY19-20	143,668	61,976
Year 5	FY20-21	145,104	62,462
Year 6	FY21-22	146,556	62,947
Year 7	FY22-23	148,021	63,433
Year 8	FY23-24	149,501	63,919
Year 9	FY24-25	150,996	64,405
Year 10	FY25-26	152,506	64,890
<i>Ten-Yr Increase</i>		14,444	5,442
Projected Fees =>		\$9,580,000	\$2,610,000
Total Projected Revenues (rounded) =>		\$12,190,000	

**WASTEWATER DEVELOPMENT FEES IN GREENFIELD SERVICE AREA**

Proposed development fees for wastewater facilities in the Greenfield Service Area are shown in Figure WW9. For nonresidential development, the fee is equal to the net capital cost per gallon of capacity multiplied by the peak day ERU demand factor of 148 gallons of wastewater flow. For meters larger than 0.75 inches, a capacity ratio converts the fee per ERU to a proportionate fee based on hydraulic capacity.

**Figure WW9– Greenfield Wastewater Development Fee Schedule**

	<i>Cost per Gallon of Average Day Capacity</i>
<b>Greenfield Service Area</b>	
Wastewater Collection System	\$0.00
Wastewater Treatment	\$13.23
Reclaimed Water Reuse/Recharge	\$8.26
Capital Cost per Gallon of Capacity	\$21.49
Average Day Gallons of Demand per ERU =>	148
IIP and Development Fee Preparation Cost per Customer =>	\$2.63

**All Development (per meter)**

Meter Size (inches)*	Capacity Ratio	Greenfield Sewer Connection Fee	Current Fee	\$ Change	Percent Change
0.75	1.00	\$3,182	\$4,015	(\$833)	-21%
1.00	1.67	\$5,313	\$6,704	(\$1,391)	-21%
1.50	3.33	\$10,593	\$13,365	(\$2,772)	-21%
2.00	5.33	\$16,953	\$21,391	(\$4,438)	-21%

\* Fees for meters larger than two inches will be based on annualized average day demand and the net capital cost per gallon of capacity.

**FORECAST OF REVENUES**

Appendix A provides the forecast of revenues required by Arizona’s enabling legislation.

**Development Fee Revenue in Greenfield Service Area**

Since multifamily units are not individually metered, residential revenue is estimated by multiplying the population projection by the total capital cost per gallon (\$21.49) multiplied by average daily consumption per person (51 gallons). For nonresidential development, it is impossible to project how many connections by meter size will occur. Therefore, we estimated nonresidential revenue by multiplying the employment projection by the total capital cost per gallon (\$21.49) multiplied by average daily wastewater consumption per job (37 gallons).

Over the next ten years, Gilbert has identified a need for approximately \$57.56 million in growth-related wastewater improvements in the Greenfield service area, including \$35.4 million in cost recovery for wastewater treatment and \$22.12 million for reuse and recharge improvements. As shown at the bottom of Figure W10, projected wastewater fee revenue totals \$57.5 million over the next ten years.

**Figure WW10 – Projected Greenfield Sewer Fee Revenue**

**Ten-Year Growth-Related Costs for Greenfield Service Area Wastewater Facilities**

Wastewater Treatment	\$35,440,000
Reclaimed Water Reuse/Recharge	\$22,125,000
<b>Total</b>	<b>\$57,565,000</b>

<i>Year</i>		<i>Residential \$1,093 Per Person</i>	<i>Nonresidential \$791 Per Job</i>
Base	FY15-16	113,003	34,392
Year 1	FY16-17	116,506	35,700
Year 2	FY17-18	120,118	37,008
Year 3	FY18-19	123,841	38,316
Year 4	FY19-20	127,680	39,624
Year 5	FY20-21	131,638	41,588
Year 6	FY21-22	135,719	43,553
Year 7	FY22-23	139,926	45,517
Year 8	FY23-24	144,264	47,481
Year 9	FY24-25	148,736	49,446
Year 10	FY25-26	153,347	51,410
<i>Ten-Yr Increase</i>		40,344	17,018
Projected Fees =>		\$44,090,000	\$13,460,000
Total Projected Revenues (rounded) =>		<b>\$57,550,000</b>	

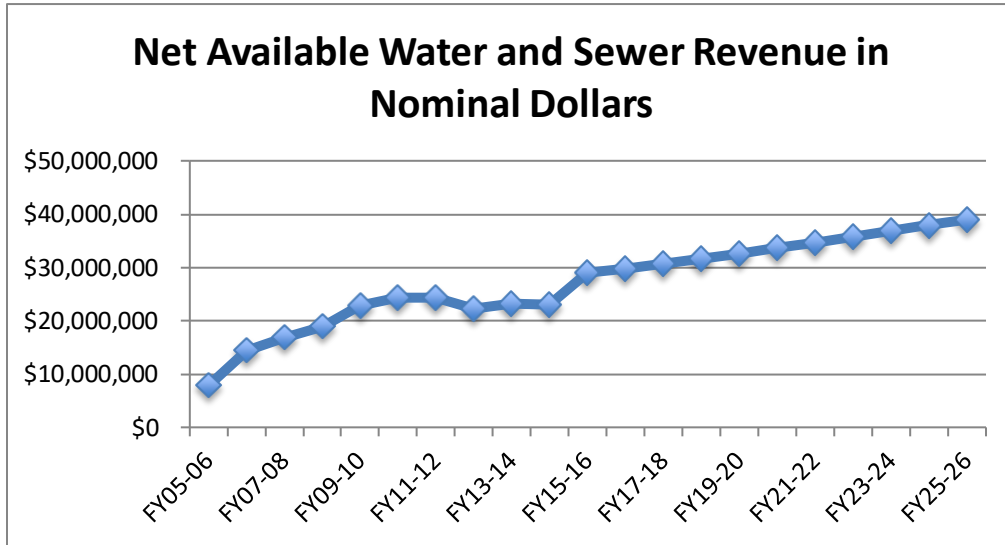
## APPENDIX A – FORECAST OF REVENUES OTHER THAN FEES

ARS 9-463.05.E.7 requires “A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved land use assumptions, and a plan to include these contributions in determining the extent of the burden imposed by the development as required in subsection B, paragraph 12 of this section.”

ARA 9-463.05.B.12 states, “The municipality shall forecast the contribution to be made in the future in cash or by taxes, fees, assessments or other sources of revenue derived from the property owner towards the capital costs of the necessary public service covered by the development fee and shall include these contributions in determining the extent of the burden imposed by the development. Beginning August 1, 2014, for purposes of calculating the required offset to development fees pursuant to this subsection, if a municipality imposes a construction contracting or similar excise tax rate in excess of the percentage amount of the transaction privilege tax rate imposed on the majority of other transaction privilege tax classifications, the entire excess portion of the construction contracting or similar excise tax shall be treated as a contribution to the capital costs of necessary public services provided to development for which development fees are assessed, unless the excess portion was already taken into account for such purpose pursuant to this subsection.”

Gilbert does not have a higher than normal construction excise tax rate, so the required offset described above is not applicable. The required forecast of non-development fee revenue that might be used for growth-related utility capital costs is shown in Figure A1. Since water and wastewater capital facilities are provided through Enterprise Funds, with no General Fund subsidy, this analysis focuses on utility revenue. The forecast of available utility revenues was derived from a linear regression analysis. Historical revenue data for the past ten years, obtained from CAFR Schedule 12 (FY ending 06/30/15), were correlated to the growth in population and jobs in Gilbert. Projected population plus jobs, from the land use assumptions, is the independent variable that drives each revenue forecast. Net available water and sewer revenue has, for the most part, increased over time. As explained in a footnote to Schedule 12, net available revenue is combined operating revenues and expenses for Water and Wastewater Funds, less debt service payments for water and wastewater revenue bonds. As Gilbert retires existing debt obligations, net available revenue increases, which allows the Town to either borrow more money in the future, fund rehabilitation and maintenance projects and/or or reduce utility user charges (i.e. water and sewer rates). Development fees will fund most of Town’s growth-related capacity costs.

Figure A1 – Graph of Utility Fund Revenue





## APPENDIX B – COST OF PROFESSIONAL SERVICES

As stated in Arizona’s development fee enabling legislation, “a municipality may assess development fees to offset costs to the municipality associated with providing necessary public services to a development, including the costs of infrastructure, improvements, real property, engineering and architectural services, financing and professional services required for the preparation or revision of a development fee pursuant to this section, including the relevant portion of the infrastructure improvements plan” (see 9-463.05.A). Because development fees must be updated at least every five years, the cost of professional services is allocated to the projected increase in service units, over five years (see Figure B1). Qualified professionals must develop the IIP, using generally accepted engineering and planning practices. A qualified professional is defined as “a professional engineer, surveyor, financial analyst or planner providing services within the scope of the person's license, education or experience”.

**Figure B1 – Cost of Professional Services**

<i>Necessary Public Service</i>	<i>Cost</i>	<i>Demand Indicator</i>	<i>Proportionate Share</i>	<i>Allocation Unit</i>	<i>Five-Year Service Unit Increase*</i>	<i>Cost per Unit</i>
Water and Sewer	\$45,216	All Development	100%	Water plus Sewer Connections	17,437	\$2.59

\*Utility connections are projected by comparing existing utility connections to current population and employment in Gilbert.

## APPENDIX C – LAND USE ASSUMPTIONS

ARS 9-463.05.T.6 requires preparation of land use assumptions with “projections of changes in land uses, densities, intensities and population for a specified service area over a period of at least ten years and pursuant to the General Plan of the municipality.”

TischlerBise prepared current demographic *estimates* and future development *projections* for both residential and nonresidential development that will be used in the Infrastructure Improvement Plan (IIP) and calculation of the development fees. Demographic data estimates for FY15-16 (ending June 30, 2016) are used in calculating levels-of-service (LOS) provided to existing development in the Town of Gilbert.

Although long-range projections are necessary for planning capital improvements, a shorter time frame of five to ten years is critical for the impact fees analysis. Arizona’s Development Fee Statute requires fees to be updated at least every five years and limits the IIP to a maximum of fifteen years (the Town has purposely chosen a ten-year window). Therefore, the use of a very long-range “build-out” analysis is no longer acceptable for deriving development fees in Arizona municipalities.

### POPULATION AND JOB FORECAST

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TischlerBise compared population and job forecast from the 2014 Development Fee study to the most recent estimates published by Maricopa Association of Governments. The previous study expected 235,772 residents in 2015, but the 2015 population estimate for Gilbert was higher, at 242,955 residents. The previous study forecast 87,987 jobs in Gilbert by 2014, but MAG’s 2015 job estimate was 91,900 jobs.

TischlerBise updated Gilbert’s land use assumptions by starting with current population and job estimates from MAG. For population growth discussions with Gilbert staff indicate that the Town expects to add approximately 5,500 persons annually over the next ten years. Total jobs for Gilbert’s Municipal Planning Area (MPA) are from Maricopa Association of Governments (MAG) socioeconomic projections by Traffic Analysis Zone (TAZ), approved in June 2016. TischlerBise uses the term “jobs” to refer to employment by place of work.

### PERSONS PER HOUSING UNIT

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The 2010 Census did not obtain detailed information using a “long-form” questionnaire. Instead, the U.S. Census Bureau switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS), which has limitations due to sample-size constraints. For example, data on detached housing units are now combined with attached single units (commonly known as townhouses).

According to the U.S. Census Bureau, a household is a housing unit that is occupied by year-round residents. Development fees often use per capital standards and persons per housing unit or persons per household to derive proportionate-share fee amounts. When persons per housing unit are used in

the fee calculations, infrastructure standards are derived using year-round population. When persons per household are used in the fee calculations, the development fee methodology assumes all housing units will be occupied, thus requiring seasonal or peak population to be used when deriving infrastructure standards.

TischlerBise recommends that development fees for residential development in the Town of Gilbert be imposed according to the number of year-round residents per housing unit. As shown in Figure C1, ACS data indicates that Town had 79,299 housing units in 2015, with an average of 2.91 per housing unit.

**Figure C1: Persons per Housing Unit**

<i>Units in Structure</i>	<i>Persons</i>	<i>Households</i>	<i>Persons per Household</i>	<i>Housing Units</i>	<i>Persons per Housing Unit</i>
Single-Family Unit	213,428	65,655	3.25	70,349	3.03
All Other Units	16,964	7,962	2.13	8,950	1.90
<b>Total</b>	<b>230,392</b>	<b>73,617</b>	<b>3.13</b>	<b>79,299</b>	<b>2.91</b>

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

**SUMMARY OF LAND USE ASSUMPTIONS**

Figure C2 provides a summary of population and dwelling units, by wastewater service area. Neely service area population is forecast increase by 1.0% per year. Population in the Greenfield service area is expected to increase by 3.1% per year. TischlerBise derived dwelling units by area assuming an average of 2.91 persons per housing unit, which the Townwide average per housing unit from the 2011-2015 American Community Survey 5-Year Estimates.

**Figure C2: Residential Development**

Gilbert, Arizona	<i>FY15-16</i>	<i>FY16-17</i>	<i>FY17-18</i>	<i>FY18-19</i>	<i>FY19-20</i>	<i>FY20-21</i>	<i>FY25-26</i>
<i>FY ends 6/30</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>2026</i>
	<i>Base Yr</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>10</i>
<b>Total Population by Area</b>							
Neely	138,062	139,443	140,837	142,245	143,668	145,104	152,506
Greenfield	113,003	116,506	120,118	123,841	127,680	131,638	153,347
Total Population (Yr-Rd)	251,065	255,949	260,955	266,086	271,348	276,742	305,853

Figure C3 provides base year data and a 10-year forecast of jobs by wastewater service area. Based on the latest MAG employment forecast (June 2016), Consistent with the projected increase in population, the growth rate for jobs is also higher in the Greenfield service area.

**Figure C3: Nonresidential Development**

Gilbert, Arizona	FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	FY20-21	FY25-26
<i>FY ends 6/30</i>	2016	2017	2018	2019	2020	2021	2026
	<i>Base Yr</i>	1	2	3	4	5	10
<b>Jobs (by place of work)</b>	Town =>	60,080	60,712	61,344	61,976	62,462	64,890
Neely Industrial Jobs	13,673	13,818	13,964	13,496	13,635	13,742	13,627
Neely Commercial Jobs	16,051	16,222	16,392	15,949	16,114	16,240	16,871
Neely Office & Other Jobs	29,724	30,040	30,356	31,899	32,228	32,480	34,392
Neely Jobs Subtotal	59,448	60,080	60,712	61,344	61,976	62,462	64,890
Greenfield Industrial Jobs	1,720	1,785	2,220	2,299	2,774	2,911	5,655
Greenfield Commercial Jobs	13,413	13,923	14,063	14,560	14,661	15,388	17,993
Greenfield Office & Other Jobs	19,260	19,992	20,724	21,457	22,189	23,289	27,761
Greenfield Jobs Subtotal	34,392	35,700	37,008	38,316	39,624	41,588	51,410
Total Jobs - Industrial	15,393	15,603	16,184	15,795	16,408	16,653	19,282
Total Jobs - Commercial	29,464	30,145	30,455	30,510	30,775	31,628	34,865
Total Jobs - Office & Other	48,984	50,032	51,080	53,356	54,417	55,770	62,153
Total Jobs	93,840	95,780	97,720	99,660	101,600	104,050	116,300

Figure C4 provides additional detail on the annual increases in service units. Population is projected to increase at an average annual rate of approximately 5,500 persons. Housing units are projected to increase at an average annual rate of 1,883. Employment is projected to increase at an average annual rate of approximately 2,246. The Town of Gilbert will closely monitor actual development each year. If needed, development fees can be updated prior to the required five-year cycle.

**Figure C4: Projected Annual Increases in Gilbert**

Annual Increase	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2016-2026 Avg Anl
	Population	4,884	5,006	5,131	5,262	5,394	5,533
Housing Units	1,678	1,720	1,763	1,808	1,854	1,901	1,883
Jobs	1,940	1,940	1,940	1,940	2,450	2,450	2,246

**DEMOGRAPHIC AREAS**

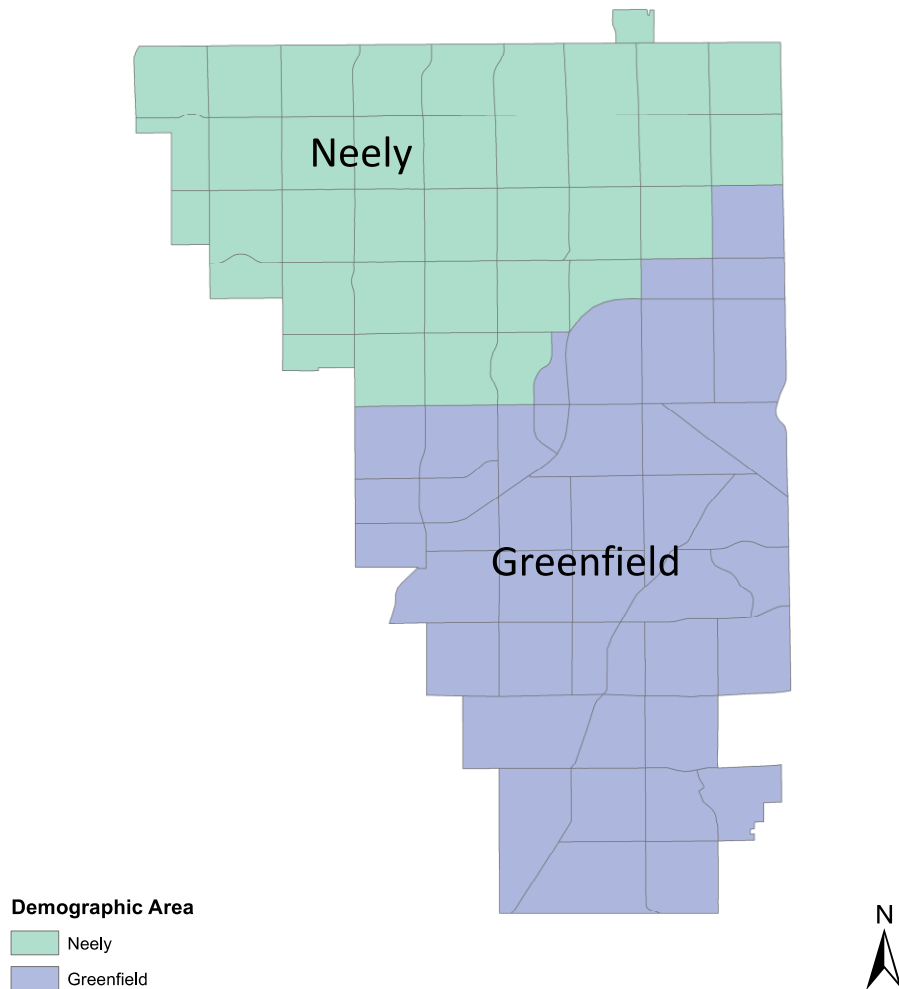
Land use assumptions for residential and nonresidential development have been prepared for two geographic areas. ARS 9-463.05(T)(9) defines “service area” as follows:

*“Any specified area within the boundaries of a municipality in which development will be served by necessary public services or facility expansions and within which a substantial nexus exists between the necessary public services or facility expansions and the development being served as prescribed in the infrastructure improvements plan. ”*

For all types of infrastructure except wastewater, Gilbert provides town-wide service. Urban development within Gilbert’s Municipal Planning Area (MPA) will require municipal water and sewer service, along with annexation. Over time, the incorporated area will increase and eventually match the

MPA boundary. For wastewater, the Neely Service Area is defined as the portion of the Town served by the Neely Water Reclamation Plant (WRP) and the Greenfield Service Area is defined as the portion of the Town served by the Greenfield Water Reclamation Plant (WRP). The approximate boundaries of the service areas are shown in the map below, using traffic analysis zones as the geographic “building-blocks” for the land use assumptions. The rationale for determining the service area for each type of infrastructure is discussed and analyzed in the Infrastructure Improvements Plan (IIP).

**Figure C5 - Map of Gilbert Service Areas**

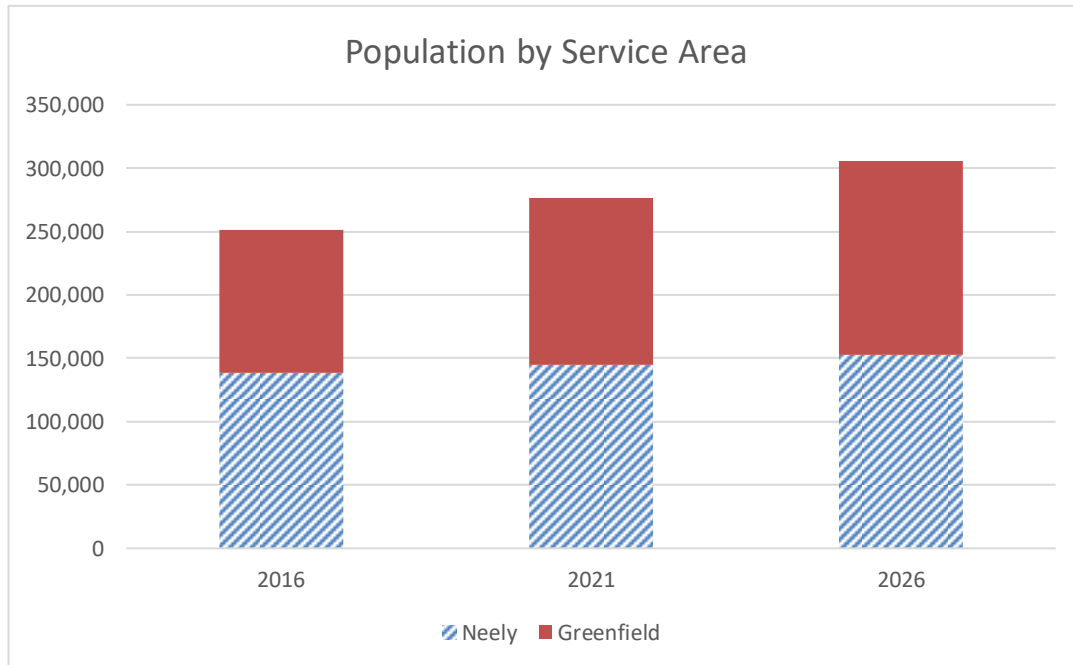


Key residential data by wastewater service area are summarized in Figure C6. The Neely service area has a larger existing base of population and housing units, but it is approaching buildout. In contrast, a larger portion of the projected increase in development will occur in the Greenfield service area. Figure C6 shows population projection by service area. As shown in Figure C6, the Greenfield service area is projected to receive 74% of new population, or 40,344 persons. Neely is projected to increase by 14,444 persons. As stated previously, the population projection is based on a Town of Gilbert assumption that projects an average annual increase of approximately 5,500 persons annually. To assign population increases by service area, TischlerBise assumed a decrease of .05% annually in the Neely service area and in annual increase of .05% in the Greenfield service area.

**Figure C6 – Population by Service Area**

**Total Population**

	2016	2021	2026	Increase
Neely	138,062	145,104	152,506	14,444
Greenfield	113,003	131,638	153,347	40,344
Townwide	251,065	276,742	305,853	54,788



*Source: Townwide population based on 2015 MAG socioeconomic data with an assumption of average annual population growth of approximately 5,500 residents annually.*

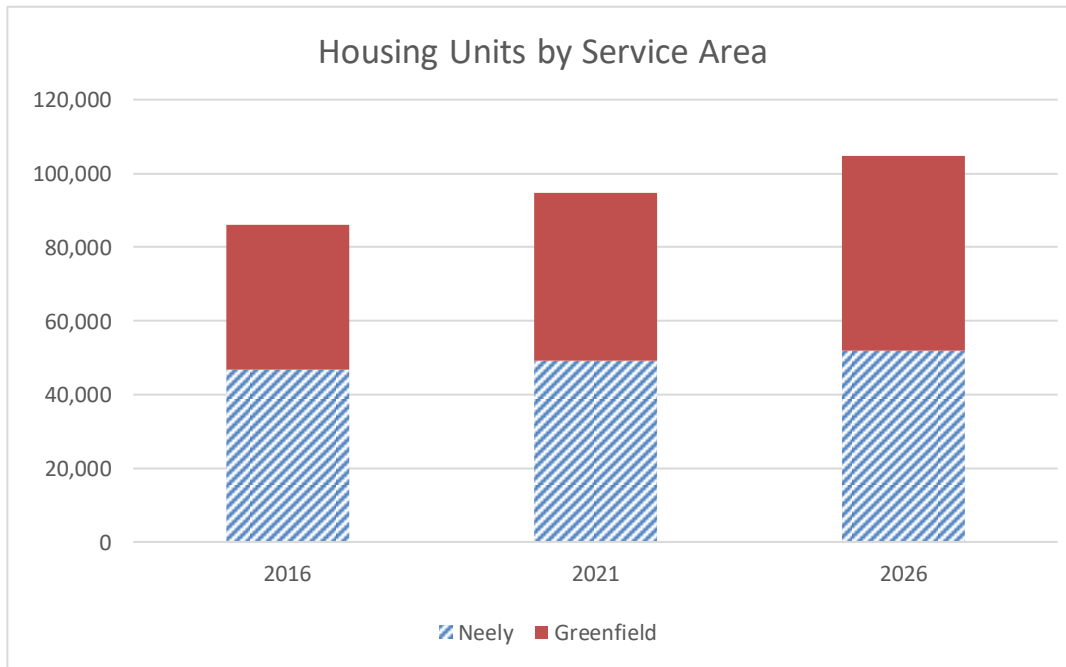
*Service area population share assumes a decrease of .05% annually for Neely and an increase of .05% annually for Greenfield*

As shown in Figure C7, the Greenfield wastewater service area is projected to receive 74% of new housing units, or 13,864 units. Neely is projected to increase by 4,964 units. Housing unit increases were determined by comparing the net increases in population to the average persons per housing unit (2.91) from the most recent American Community Survey data compiled by the US Census Bureau.

**Figure C7 – Housing Units by Service Area**

**Housing Units**

	2016	2021	2026	Increase
Neely	46,850	49,270	51,813	4,964
Greenfield	39,082	45,485	52,945	13,864
Townwide	85,931	94,755	104,759	18,827



*Source: TischlerBise derived housing units from projected population, assuming a persons per housing unit factor of 2.91 from the 2011-2015 American Community Survey 5-Year Estimates.*

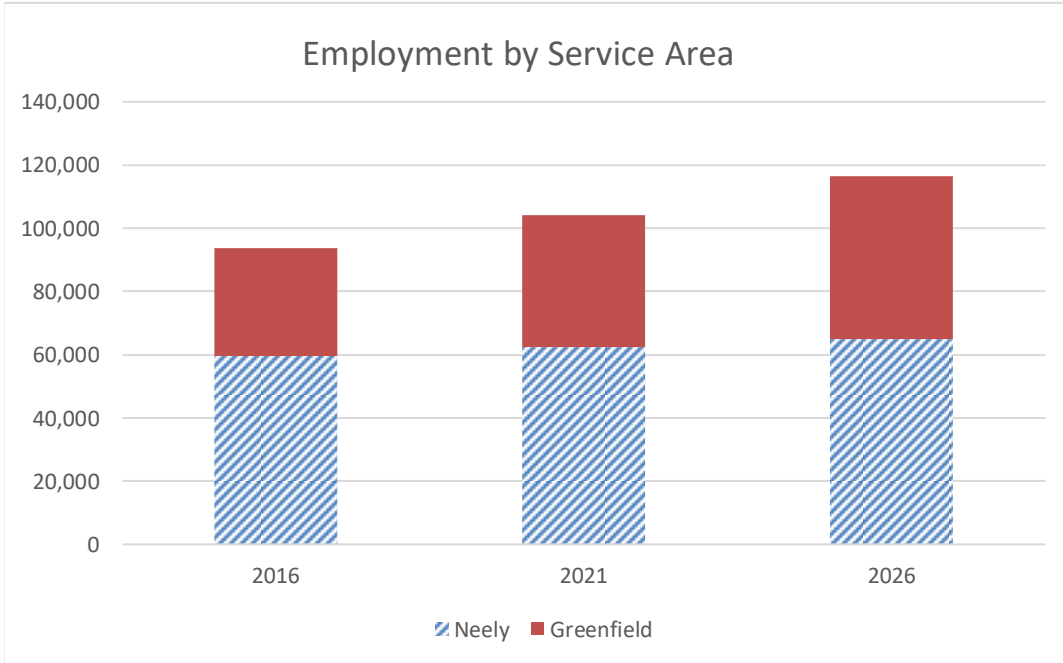
Figure C8 shows project employment in Gilbert, by wastewater service area. Townwide employment projections are from the most recent MAG socioeconomic projections (June, 2016). As shown in Figure C8, the Greenfield service area is projected to receive 76% of new employment, or 17,018 jobs. Neely is projected to increase by 5,442 jobs. To assign employment increases by service area, TischlerBise assumed a decrease of .05% annually in the Neely service area and in annual increase of .05% in the Greenfield service area.



**Figure C8– Employment by Service Area**

**Employment**

	2016	2021	2026	Increase
Neely	59,448	62,462	64,890	5,442
Greenfield	34,392	41,588	51,410	17,018
Townwide	93,840	104,050	116,300	22,460



*Source: Townwide employment projection is from MAG socioeconomic projections, June 2016. persons per housing unit factor of 3.04 from the 2014 American Community Survey Census data.*

*Service area employment share assumes a decrease of .05% annually for Neely and an increase of .05% annually for Greenfield*