

**Town of Prescott Valley  
2014 Water and Wastewater  
Capacity Fee Report**



**Raftelis Financial Consultants, Inc.  
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**Table of Contents**

1. Introduction ..... 1

2. Definition of Utility Capacity Fees ..... 1

3. Discussion of Capacity Fee Calculation Methodologies ..... 2

    3a. Equity Buy-In Method ..... 2

    3b. Incremental Cost Method ..... 2

    3c. Hybrid Method ..... 2

4. Description of the Town's Current Capacity Fees ..... 3

    4a. Current Single Family Residential Capacity Fees ..... 3

    4b. Current Multi-Family Residential Capacity Fees ..... 3

    4c. Current Non-Residential Capacity Fees ..... 3

5. Current Water Capacity Fee Assessment Schedule ..... 4

6. Water Resources Fee ..... 4

7. Calculation of Proposed Water Capacity Fees ..... 4

    7a. Cost of Capacity-Related Water CIP Additions ..... 4

    7b. Proposed Single Family Residential Water Capacity Fee ..... 4

    7c. Proposed Multi-Family Residential Water Capacity Fees ..... 5

    7d. Proposed Non-Residential Water Capacity Fees ..... 5

    7e. Discussion of Non-Residential Fee Assessment Methodologies ..... 6

        Fixture Unit Assessment Methodology ..... 6

        Meter Size Assessment Methodology ..... 6

    7f. Recommended Non-Residential Assessment Methodology ..... 8

8. Water Capacity Fee Fund Cash Flow Forecast ..... 8

9. Current Wastewater Capacity Fee Assessment Schedule ..... 9

10. Discussion of Sewer In-Lieu of Assessment Fee ..... 9

11. Calculation of Wastewater Capacity Fees ..... 9

11a.	Replacement Cost of Existing Wastewater Treatment Plant.....	9
11b.	Cost of Capacity-Related Wastewater CIP Additions.....	10
11c.	Proposed Single Family Residential Wastewater Capacity Fee .....	10
11d.	Proposed Multi-Family Residential Wastewater Capacity Fees.....	11
11e.	Proposed Non-Residential Wastewater Capacity Fees.....	11
11f.	Non-Residential Wastewater Capacity Fee Based on Meter Size.....	12
11g.	Recommended Non-Residential Assessment Methodology.....	12
12.	Wastewater Capacity Fee Fund Cash Flow Forecast .....	12

## 1. Introduction

The Town of Prescott Valley, Arizona (Town) retained the services of Raftelis Financial Consultants (RFC) to update its water and wastewater utility capacity fees. Table 1 shows a summary comparison of the Town's current capacity fees versus the proposed capacity fees calculated by RFC using the Town's current assessment methodology. Later in this report, RFC will present alternative proposed non-residential capacity fees based on the use of a different capacity fee assessment methodology. RFC believes the proposed fees shown in Table 1 are appropriate based on industry standard capacity fee calculation methodologies. A comprehensive discussion of how these fees were calculated is presented in this report.

<b>Table 1</b>			
<b>Summary of Current and Proposed Capacity Fees Under the Current Assessment Methodology</b>			
<b>Water Capacity Fees</b>			
<b>Development Type</b>	<b>Current</b>		<b>Proposed</b>
	<b>North of Highway 89A</b>	<b>South of Highway 89A</b>	
Single Family Residential (per RDE)	\$1,570	\$1,311	\$1,491
Non-Residential (per fixture unit)	62.80	52.44	59.64
<b>Wastewater Capacity Fees</b>			
<b>Development Type</b>	<b>Current</b>		<b>Proposed</b>
Single Family Residential (per RDE)	\$3,162		\$3,014
Non-Residential (per fixture unit)	126.48		120.56

This report does not include an analysis of the Town's Water Resources Fee or the sewer "In-Lieu of Assessment Fee." Nothing in this report should be construed to modify these fees.

## 2. Definition of Utility Capacity Fees

Utility capacity fees are also referred to as system development charges, plant investment fees, tap fees, and a variety of other terms. As described in the Sixth Edition of the American Water Works Association publication *Manual of Water Supply Practices M1, Principles of Water Rates, Fees, and Charges*, these fees compensate a community for the cost of acquiring, constructing and extending infrastructure to support new development:

"A system development charge (SDC) is a one-time charge paid by a new water system customer for system capacity. It is also assessed to existing customers requiring increased system capacity. The receipts from this charge are used to finance the development of capacity-related water facilities and are an important funding/financing source for growth-related or capacity-related water facilities."

There are several legal standards that define the design and application of capacity fees. Capacity fees cannot cover operational and maintenance expenses, or the repair and replacement of existing infrastructure or facilities. The revenues collected through capacity fees must be dedicated solely for infrastructure expansion required by new development. Capacity fees must be proportional to a new development's share of infrastructure costs.

### **3. Discussion of Capacity Fee Calculation Methodologies**

The three primary industry accepted methodologies for calculating water and wastewater utility capacity fees are the Equity Buy-In, Incremental Cost, and Hybrid approaches. Depending on the unique circumstances of the utility in question, the use of one or more of these approaches results in a conceptually defensible and fundamentally equitable method for recovering the costs of system capacity additions required to serve new development.

#### **3a. Equity Buy-In Method**

The equity buy-in method is appropriate for utility systems with existing available capacity to meet the demands imposed by new development. This method estimates the value of a unit of system capacity based upon the equity in existing capacity-related assets. The resulting capacity fee reflects the proportional cost of new customer's share of existing system capacity. Under the equity buy-in method, the cost of existing capacity-related facilities is generally estimated using based on current replacement cost. However, some utilities, depending on their unique circumstances, choose to value existing capacity-related assets at original cost, net book value, or replacement cost less depreciation. Generally excluded from the valuation of existing capacity-related assets are local service lines that are dedicated to serving existing customers and all assets contributed by or paid for by developers. The outstanding principal payments associated with the debt used to construct capacity-related assets are generally also deducted because these costs will be recovered from present and future ratepayers via their water and/or wastewater rates.

#### **3b. Incremental Cost Method**

The incremental cost method focuses on the cost of the additional capacity-related assets required to serve new customers. The incremental cost method is most appropriate for utility systems that do not have existing available capacity. The resulting capacity fee reflects the proportional cost of each new customer's share of future system capacity. As such, the incremental cost method is most appropriately used when a utility has a well-defined capital improvement program or utility master plan. Under the incremental cost method, debt principal payments associated with the financing of planned new capacity-related assets are generally deducted because this cost will be recovered from present and future ratepayers via their water and wastewater rates.

#### **3c. Hybrid Method**

In addition to the equity buy-in and incremental cost method, it is also common for many water and wastewater utilities to use a combination of these two approaches. This combined "hybrid" approach is often used when a utility has some existing system capacity to accommodate growth but will also be required to construct additional new capacity in the future. For example, assume that a wastewater utility has adequate treatment capacity to accommodate long-term

demand growth but that it has a short-term shortage of backbone transmission main and pumping capacity. In such a situation, it may be appropriate to utilize the equity buy-in method to calculate that portion of the capacity fees associated with its wastewater treatment plant capacity and the incremental cost method to calculate that portion of the capacity fees related to planned future transmission main and pumping capacity additions.

#### **4. Description of the Town's Current Capacity Fees**

##### **4a. Current Single Family Residential Capacity Fees**

The Town's current water and wastewater capacity fees are based on the foundational unit of measure called a Single Family Residential Dwelling Unit Equivalent (RDE). A RDE reflects the estimated capacity demand (i.e., billed water consumption or billed wastewater discharges) imposed on the Town's utility systems by a detached single family residential dwelling. Historically, one RDE is considered to accommodate a total of 25 plumbing fixture units (dishwashers, showers, sinks, toilets, washing machines, etc.). As defined by the International Plumbing Code, all water using devices are assigned a fixture unit count. For example, a toilet may be three fixture units and a bathroom sink may be one fixture unit.

##### **4b. Current Multi-Family Residential Capacity Fees**

The current water and wastewater capacity fees for multi-family residential developments are also charged on a dwelling unit basis. The capacity demands imposed by each dwelling unit in a duplex, triplex, or fourplex are assumed to be equivalent to 85% of that imposed by a RDE (approximately 21 fixture units). Therefore, the capacity fees assessed for each dwelling unit in a duplex, triplex, or fourplex development are 85% of that paid by a RDE. Similarly, the capacity demands imposed by each dwelling unit in an apartment building or condominium are assumed to be equivalent to 80% of that imposed by a RDE (approximately 20 fixture units). As a result, the water and wastewater capacity fees assessed for each dwelling unit in an apartment building or condominium are 80% of that paid by a RDE.

##### **4c. Current Non-Residential Capacity Fees**

The water capacity fees for non-residential developments (e.g., commercial, industrial and institutional buildings) are assessed based on the actual number of fixture units in each property. The amount charged for each non-residential fixture unit is equivalent to cost per fixture unit for a RDE. As discussed above, a RDE is assumed to be equivalent to a total of 25 fixture units. For example, the Town's current single family residential water capacity fee for developments located North of Arizona State Highway 89A is \$1,570. This translates to \$62.80 per plumbing fixture unit ( $\$1,570 / 25 = \$62.80$ ). Therefore, a commercial building with 1,000 fixture units would pay a water capacity fee of \$62,800 ( $1,000 \times \$62.80$ ). A similar plumbing fixture-based approach is used by the Town for the assessment of wastewater capacity fees. In those cases in which a new development does not have readily identifiable plumbing fixtures (i.e., park or school irrigation or mining and gravel pit operations), the Town assesses capacity fees based on meter size.

## 5. Current Water Capacity Fee Assessment Schedule

The Town's water capacity fee assessment schedule is shown in Table 2. Note that the assessment schedule shows different water capacity fees for developments north and south of Arizona State Highway 89A. This difference is due to the fact that the Town once operated separate water utility systems with different cost structures. The Town has combined these separate water utility systems and now operates a single integrated water utility system serving customers both north and south of the Arizona State Highway 89A. As a result, there will be only one set of water capacity fees for this fully integrated system.

<b>Table 2</b>			
<b>Current Town of Prescott Valley Water Capacity Fees</b>			
<b>Development Type</b>	<b>Single Family Residential Equivalency</b>	<b>Water Capacity Fee North of Highway 89A</b>	<b>Water Capacity Fee South of Highway 89A</b>
Single Family Residential (RDE)	1.00 RDE	\$,1570	\$1,311
Multi-Family Residential (per Dwelling Unit)			
Duplexes, Triplexes, Fourplexes	0.85 RDE	\$1,334	\$1,114
Apartments / Condominiums	0.80 RDE	1,256	1,048
Hotels / Motels	0.50 RDE	785	655
Non-Residential (per fixture unit)	Fixture Unit	\$62.80	\$52.44

## 6. Water Resources Fee

In addition to the water capacity fees shown above, the Town also charges new development a water resources fee. The Town's water resources fee was not analyzed by RFC as part of this study.

## 7. Calculation of Proposed Water Capacity Fees

### 7a. Cost of Capacity-Related Water CIP Additions

To accommodate projected customer demand growth during the period FY 2015 - FY 2024, the Town requires 2,500 gallons per minute (gpm) of new well capacity along with associated expansions of storage tanks, booster pumps, mains, and other system assets. Based on the need for these capacity-related infrastructure additions, the incremental cost method was used to calculate the Town's proposed water capacity fees (see Section 3b). The total estimated cost of these facilities is \$10,086,039. A comprehensive detail of the specific projects included in this amount is shown in Appendix A.

### 7b. Proposed Single Family Residential Water Capacity Fee

The proposed water capacity fee per RDE is \$1,491. As shown in Table 3, this fee is based on per capita RDE water usage of 105.2 gallons per day. Assuming an average household size of 2.53 persons, this equates to a daily usage of 266.2 gallons per household. Based on

information supplied by the Town staff, the water utility maximum day demand is approximately two times greater than annual average day demand (i.e., a 2.0 maximum day peaking factor). Thus, the maximum day demand for a RDE is 532.3 gallons per day. Over a 24-hour period, this equates to 0.37 gallons per minute.

As noted above, the Town plans to add 2,500 gpm of well capacity during the period FY 2015 - FY 2024. This level of well capacity can serve up to 6,762 new RDEs. Thus, the resulting proposed single family residential water capacity fee is \$1,491.

<b>Table 3 Calculation of the Proposed Single Family Residential Water Capacity Fee</b>	
<b>Demand and Cost Metrics</b>	<b>Input</b>
Water Production Expressed on a Gallons per Capita per Day (GPCD) Basis (Total Gallons of SFR Demand + System Line Losses) / SFR Population / 365	105.19
System Coincident Maximum Day Peaking Factor	<u>2.00</u>
SFR Maximum GPCD Demand (SFR GPCD Demand X System Peaking Factor)	210.38
SFR Average Household Size (SFR Population / SFR Occupied Units)	<u>2.53</u>
SFR Maximum Day Demand (SFR Maximum GPCD Demand x SFR Avg. Household Size)	532.35
Number of Minutes During 24-Hour Period	<u>1,440</u>
SFR Maximum Day Gallons Per Minute During a 24 Hour Period	0.3697
Well Capacity Added Expressed in Gallons per Minute	<u>2,500</u>
Well Capacity Added Expressed in SFR Dwelling Units	6,762
CIP Includable in the Capacity Fee Calculation Over the FY 2015 - FY 2024 Planning Horizon	\$10,086,039
<b>Proposed Single Family Residential Water Capacity Fee</b>	<b>\$1,491</b>

### 7c. Proposed Multi-Family Residential Water Capacity Fees

Table 4 shows the proposed multi-family water capacity fees calculated using the Town's current assessment methodology (see Section 4b).

<b>Table 4 Calculation of Proposed Multi-Family Residential Water Capacity Fees</b>			
<b>Multi-Family Development</b>	<b>Single Family Residential Fee</b>	<b>Single Family Residential Equivalency</b>	<b>Proposed Fee</b>
Duplexes, Triplexes, Fourplexes	\$1,491	0.85 RDE	\$1,267
Apartments / Condominiums	1,491	0.80 RDE	1,192
Hotels / Motels	1,491	0.50 RDE	745

### 7d. Proposed Non-Residential Water Capacity Fees

As discussed previously (see Section 4c), the Town currently assesses water capacity fees on the basis of plumbing fixture units. The proposed single family residential water capacity fee is \$1,491. Therefore, under the Town's current non-residential capacity fee assessment methodology, the non-residential water capacity fee would be \$59.64 per fixture unit (\$1,491/25 plumbing fixture units).

## 7e. Discussion of Non-Residential Fee Assessment Methodologies

The most common approach to the assessment of capacity fees is based on meter size rather than the Town's current fixture unit-based approach. This is true in both the State of Arizona and other parts of the United States. As discussed below, there are advantages and disadvantages to both approaches.

### Fixture Unit Assessment Methodology

The primary advantage of the fixture unit-based methodology is that it results in new developments being charged water capacity fees that are linearly correlated to the expected water usage associated with the number and type of fixtures in a new non-residential property. Thus, capacity fee costs increase in a linear manner that is directly proportional to the number of fixture units.

The disadvantage of the plumbing fixture-based methodology is that it can be both complex and time-consuming to determine the exact number and type of plumbing fixtures used in a large non-residential property. This makes it difficult to provide estimated fees to potential new businesses. Further, there is no guarantee that actual water usage from each new developments will approximate expected water usage no matter how diligently and accurately Town staff analyzes the plumbing fixture units associated with new a non-residential development.

Fixture units can be correlated to meter size using standardized conversion factors. Table 5 shows the correlation currently used by the Town and the resulting capacity fee at the proposed non-residential fee of \$62.48 per fixture unit. Note that the Town has no established correlation for 3/4" meters because 3/4" meters are not currently used by the Town.

<b>Fixture Units</b>	<b>Meter Size</b>	<b>Water Capacity Fee at the Proposed Cost of \$62.48 per Fixture Unit</b>
25	5/8"	\$1,562
N/A	3/4"	N/A
63	1"	3,936
125	1/5"	7,810
200	2"	12,496
400	3"	24,992
625	4"	39,050
1.250	6"	78,100
2.000	8"	124,960
2.875	10"	179,630

### Meter Size Assessment Methodology

The primary advantage of using meter sizes to assess capacity fees is that it is easier to administer. However, it is important to note that the meter size methodology does not relieve communities from the responsibility of maintaining a "plan review" process to ensure that developers purchase a tap adequate for the demands they impose. Further, as is the case with

the fixture unit based approach to capacity fee assessment, having a thorough plan review process does not provide a guarantee that the actual water usage from each new developments will approximate expected water usage.

Unlike the Town's fixture unit methodology, water capacity fees assessed under a meter size approach are based on meter flow rate equivalencies as obtained from the American Water Works Association publication, *Manual of Water Supply Practices M22, Sizing Water Service Lines and Meters*. The specific metric used to establish capacity fees is the meter's maximum flow rate, expressed on a gallons per minute basis. The conceptual basis for using maximum flow rates to establish capacity fees is that they represent the highest potential instantaneous demand that can be imposed by a customer at each meter size. The utility system must stand ready to meet such a demand and therefore should be compensated for the cost of this capability.

Table 6 shows the proposed non-residential water capacity fee assessment schedule using a meter-sized methodology. There are several things to note regarding the information shown in Table 6. First, fees for meters up to 10" are presented. In actual practice we would not recommend publishing capacity fees for meters greater than 4". This is because the water usage associated with meters greater than 4" is so large that the capacity fees for developments requiring a larger meter should be analyzed on a detailed case-by-case basis. Second, the fee assessment schedule includes a fee for 3/4" meters should the Town elect to begin using this meter size in the future. This will allow for a smaller fee increase than going directly from a 5/8" to 1" meter.

<b>Meter Size</b>	<b>Maximum Flow Rate (GPM)</b>	<b>Flow Rate Equivalencies</b>	<b>Proposed Water Capacity Fee Based on Meter Flow Rate Equivalencies</b>
5/8"	25	1.00	\$1,491
3/4"	38	1.52	2,266
1"	63	2.52	3,757
1 1/2"	125	5.00	7,455
2"	200	8.00	11,928
3"	400	16.00	23,856
4"	625	25.00	37,275
6"	1250	50.00	74,550
8"	2000	80.00	119,280
10"	3600	144.00	\$214,704

A summary comparison of the fixture unit and meter size approaches is presented in Table 7.

<b>Table 7</b>			
<b>Comparison of the Fixture Unit and Meter Size Methodologies</b>			
<b>Administrative Burden</b>		<b>How Fee is Calculated?</b>	
<b>Fixture Units</b>	<b>Meter Size</b>	<b>Fixture Units</b>	<b>Meter Size</b>
Can be complex and burdensome to administer for large non-residential Properties	Easier to administer.	Fees are directly proportional to the number of fixture units.	Fees are same for each meter size regardless of demand. Customers pay the same fee over a range of consumption within an individual meter size
<b>When Additional Fees Must Be Assessed?</b>		<b>Ease of Customer Understanding</b>	
<b>Fixture Units</b>	<b>Meter Size</b>	<b>Fixture Units</b>	<b>Meter Size</b>
Additional fees must be assessed whenever fixture units are increases	Additional fees must be assessed only when meter size increases	More difficult to understand	Easy to understand

### **7f. Recommended Non-Residential Assessment Methodology**

RFC recommends that the Town begin assessing non-residential water capacity fees based on meter size. This change will allow for enhanced comparability with the capacity fees of other communities. It will also make it easier for the Town's Staff to provide estimated fees to potential new businesses.

## **8. Water Capacity Fee Fund Cash Flow Forecast**

The last step in the process of developing water capacity fees is to prepare a forecast of Water Capacity Fund cash flows for the planning horizon in question. This cash flow forecast allows the Town to determine whether the proposed capacity fees will produce a level of revenue are adequate to cover the cost of planned infrastructure given the projected growth in new development. Appendix B to this report shows the forecast level of new development for the FY 2015 - FY 2024 planning horizon. The growth assumptions shown in Appendix B are comparable to those used in other Town planning documents. Appendix C shows the final outcome of the Water Capacity Fee Fund cash flow forecasting process.

## 9. Current Wastewater Capacity Fee Assessment Schedule

Table 8 shows the Town's current wastewater capacity fee assessment schedule.

Table 8 Current Town of Prescott Valley Wastewater Capacity Fees		
Development Type	Single Family Residential Equivalency	Wastewater Capacity Fee
Single Family Residential Equivalent (RDE)	1.00 RDE	\$3,162
Multi-Family Residential (per Dwelling Unit)		
Duplexes, Triplexes, Fourplexes	0.85 RDE	\$2,687
Apartments / Condominiums	0.80 RDE	2,529
Hotels / Motels	0.50 RDE	1,581
Non-Residential (per fixture unit)	Fixture Unit	\$126.48

## 10. Discussion of Sewer In-Lieu of Assessment Fee

The Town's sewer In-Lieu-of Assessment fee was established in 1993 when the Town's original wastewater system was constructed. It was intended to provide a mechanism for ensuring that the properties connecting to the wastewater system paid their fair share of project costs. At that time, the In-Lieu-of-Assessment fee applied primarily to commercial properties that were not yet developed and for whom their future use was not known. Many of these properties remain undeveloped. When developed they may contribute a greater amount of wastewater than anticipated when the In-Lieu-of-Assessment Fee was originally assessed.

The In-Lieu-of-Assessment Fee is calculated based on a complex formula utilizing fixture units and equivalent septic tank sizing calculations. These calculations require knowledge of original assessment amounts for the property, previous assessments paid, current plans, and information on parcel splits or combinations that may have occurred. RFC's update of the Town's water and wastewater capacity fees did not include an analysis of the Town's current methodology for calculating In-Lieu-of-Assessment fee. Nothing in this report should be interpreted as modifying the Town's In-Lieu-of-Assessment fee.

## 11. Calculation of Wastewater Capacity Fees

### 11a. Replacement Cost of Existing Wastewater Treatment Plant

The Town's wastewater treatment plant (WTP) has a total capacity of 3.75 million gallons per day (MGD). When originally constructed, the WTP had a capacity of 2.5 MGD. The WTP was expanded to 3.75 MGD in 2007. RFC valued the Town's existing WTP capacity using the equity buy-in method (see Section 3A).

RFC estimates the replacement cost of the WTP at \$66.7 million. There are two components of this cost. The first is replacement cost of the WTP physical infrastructure. The second is the

present value of the interest payments associated with debt service used to finance the 2007 expansion of WTP. This debt financing was obtained from the State of Arizona's Water Infrastructure Financing Authority (WIFA). The Town has utilized two WIFA loans to finance the WTP. The first loan was in the amount of \$9.3 million and the second loan was in the amount of \$5.0 million. Table 9 shows a summary of the WTP replacement cost calculation.

<b>Table 9</b>	
<b>Calculation of the Estimated Replacement Cost of the Wastewater Treatment Plant</b>	
<b>Cost and Demand Input</b>	<b>Replacement Cost of WTP</b>
Cost of 2007 WTP 1.25 MGD Expansion	\$18,000,000
Estimated Replacement Cost in 2014 Dollars	20,478,413
Present Value of WIFA Debt Interest Payments	1,764,914
<b>Total Replacement Cost of 2007 WTP Expansion in 2014 Dollars</b>	<b>22,243,327</b>
2007 Capacity WTP Added (MGD)	1.25
Cost per MGD in 2014 Dollars (\$22,243,327 / 1.25 MGD)	17,794,661
Total WTP Capacity (MGD)	3.75
Estimated Replacement Cost of WTP Existing Capacity in 2014 Dollars (\$17,794,661 X 3.75 MGD)	\$66,729,980

### **11b. Cost of Capacity-Related Wastewater CIP Additions**

To accommodate projected customer demand growth during the period FY 2015 - FY 2024, the Town requires the construction of capacity-related wastewater infrastructure estimated to cost \$3,569,133. A comprehensive detail of the specific projects included in this amount shown in Appendix D.

### **11c. Proposed Single Family Residential Wastewater Capacity Fee**

Based on the need for capacity-related infrastructure additions and existing capacity available in the Town's WTP, the hybrid method (see Section 3c) was used to calculate the Town's proposed wastewater capacity fees of \$3,014. Of this amount, \$2,475 is associated with the cost of existing capacity in the Town's WTP and \$539 is associated with future CIP additions. Table 10 illustrates the calculation of both of these fee components.

The value of \$2,475 shown in the top half of Table 10 is based on per capita RDE wastewater discharges of 54.7 gallons per day. Assuming an average household size of 2.53 persons, this equates to a daily usage of 139.1 gallons per household. The existing WTP has a capacity of 3.75 MGD. Thus, it has the capacity to serve an estimated 26,981 RDE. The estimated replacement cost of the Town's WTP is \$66.7 million (see Section 11a). As a result, the WTP portion of the single family residential wastewater capacity fee is \$2,475.

The value of \$539 shown in the bottom half of Table 10 is based on CIP additions of \$3,569,133 and the estimated addition of 6,620 RDEs during the period FY 2015 - FY 2024. Thus, the future CIP portion of the proposed single family residential wastewater capacity fee is \$539.

<b>Table 10</b>	
<b>Calculation of the Proposed Single Family Residential Wastewater Capacity Fee</b>	
<b>Replacement Cost of Existing Wastewater Treatment Capacity</b>	
Total Population	41,982
Annual Billed Wastewater Discharges	842,290,944
Estimated Wastewater Discharges Expressed on a Gallons per Capita per Day Basis (GPCD)	54.97
SFR Average Persons per Household	2.53
Estimated SFR Household Wastewater Discharges	139.09
System Maximum Day Peaking Factor	1.00
SFR Maximum Day Household Discharges	139.09
Existing WTP Capacity (Gallons)	3,750,000
Theoretical SFR Households Served By Existing Capacity	26,961
Replacement Cost New of Existing Capacity and Present Value WIFA Debt Interest	\$66,729,980
<b>Cost of Existing WTP Capacity</b>	<b>\$2,475</b>
<b>Cost of Future CIP</b>	
Forecast Incremental Population Growth Through 2024	16,751
SFR Average Persons per Household	2.53
Incremental SFR Households	6,620
Collection and Conveyance CIP	\$2,712,668
Treatment Plant CIP	856,465
<b>Total Future CIP</b>	<b>\$3,569,133</b>
<b>Cost per Capacity-Related Collection &amp; Conveyance CIP</b>	<b>\$539</b>
<b>Proposed Single Family Residential Wastewater Capacity Fee</b>	<b>\$3,014</b>

**11d. Proposed Multi-Family Residential Wastewater Capacity Fees**

Table 11 shows the proposed multi-family water capacity fees calculated using the Town's current assessment methodology (see Section 4b).

<b>Table 11</b>			
<b>Calculation of Proposed Multi-Family Residential Wastewater Capacity Fees</b>			
<b>Multi-Family Development</b>	<b>Single Family Residential Fee</b>	<b>Single Family Residential Equivalency</b>	<b>Proposed Fee</b>
Duplexes, Triplexes, Fourplexes	\$3,014	0.85 RDE	\$2,561
Apartments / Condominiums	3,014	0.80 RDE	2,411
Hotels / Motels	3,014	0.50 RDE	1,507

**11e. Proposed Non-Residential Wastewater Capacity Fees**

As discussed previously (see Section 4c), the Town currently assesses wastewater capacity fees on the basis of plumbing fixture units. The proposed single family residential water capacity fee is \$3,014. Therefore, under the Town's current non-residential capacity fee assessment methodology, the non-residential wastewater capacity fee would be \$120.56 per fixture unit (\$3,014/25 plumbing fixture units).

### 11f. Non-Residential Wastewater Capacity Fee Based on Meter Size

Section 7f of this report contains a detailed discussion of the advantages and disadvantages of assessing non-residential capacity fees based on plumbing fixture units (the Town's current approach) or meter size (the most frequently used basis for assessing non-residential capacity fees). Table 12 presents the proposed wastewater capacity fees if a meter-sized based approach was utilized.

<b>Meter Size</b>	<b>Maximum Flow Rate (GPM)</b>	<b>Flow Rate Equivalencies</b>	<b>Proposed Wastewater Capacity Fee Based on Meter Flow Rate Equivalencies</b>
5/8"	25	1.00	\$3,014
3/4"	38	1.52	4,582
1"	63	2.52	7,596
1 1/2"	125	5.00	15,071
2"	200	8.00	24,114
3"	400	16.00	48,228
4"	625	25.00	75,356
6"	1250	50.00	150,711
8"	2000	80.00	241,138
10"	3600	144.00	\$434,048

### 11g. Recommended Non-Residential Assessment Methodology

As is the case with water capacity fees, RFC recommends that the Town begin assessing non-residential wastewater capacity fees based on meter size. As noted previously (see Section 7f), this change will allow for enhanced comparability with the capacity fees of other communities. It will also enhance the ability of the Town's Staff to provide estimated fees to potential new businesses.

## 12. Wastewater Capacity Fee Fund Cash Flow Forecast

The last step in the process of developing wastewater capacity fees is to prepare a forecast of Wastewater Capacity Fund cash flows for the planning horizon in question. This cash flow forecast allows the Town to determine whether the proposed capacity fees will produce a level of revenue adequate to cover the cost of planned infrastructure given the projected growth in new development. Appendix B to this report shows the forecast level of new development for the FY 2015 - FY 2024 planning horizon. The growth assumptions shown in Appendix B are comparable to those used in other Town planning documents. Appendix D shows the final outcome of the Wastewater Capacity Fee Fund cash flow forecasting process.

Detail of Planned Water  
CIP Expenditures

Appendix A

Project Description	Year	Cost in 2014 Dollars	% Growth	Paid by Capacity Fees?	Forecast CIP Expenditures										Total CIP	CIP Paid by Capacity Fees	CIP Paid by Other Sources
					FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24			
<b>Wells</b>																	
New well field - transmission main(s) in Zone 10 - just south of Superstition Drive, Zone 3	2024	\$1,466,559	100.0%	Yes									\$1,466,559	\$1,466,559	\$1,466,559		
New well capacity for Upper District System (1,000 gpm)	2017	\$1,200,000	100.0%	Yes			\$1,200,000							\$1,200,000	\$1,200,000		
Additional well capacity for Lower District System (1,000gpm)	2023	\$1,200,000	100.0%	Yes								\$1,200,000		\$1,200,000	\$1,200,000		
Additional well capacity for Municipal System (1,000gpm)	2016	\$1,200,000	100.0%	No		\$1,200,000								\$1,200,000		\$1,200,000	
Additional well capacity for Mingus West/Fairgrounds System (500 gpm)	2020	\$750,000	100.0%	Yes						\$750,000				\$750,000	\$750,000		
<b>Total Wells</b>		\$5,816,559			\$0	\$1,200,000	\$1,200,000	\$0	\$0	\$750,000	\$0	\$0	\$1,200,000	\$1,466,559	\$5,816,559	\$4,616,559	\$1,200,000
<b>Tanks</b>																	
Stoneridge Water Tank 2.0 MG	2020	\$2,618,856	100.0%	Yes						\$2,618,856				\$2,618,856	\$2,618,856		
<b>Total Tanks</b>		\$2,618,856			\$0	\$0	\$0	\$0	\$0	\$2,618,856	\$0	\$0	\$0	\$2,618,856	\$2,618,856	\$0	\$0
<b>Booster Pumps</b>																	
Duplex Booster Pump Station Upgrade	2017	\$2,330,782	100.0%	No			\$2,330,782							\$2,330,782		\$2,330,782	
<b>Total Booster Pumps</b>		\$2,330,782			\$0	\$0	\$2,330,782	\$0	\$0	\$0	\$0	\$0	\$0	\$2,330,782	\$0	\$2,330,782	
<b>New Mains</b>																	
Zone 7 Improvements (Manzanita Trail and Durham/Piebald) and fire flow (Tapadero Drive)	2018	\$1,243,956	0%	No					\$1,243,956					\$1,243,956	\$0	\$1,243,956	
Zone 2 Improvements (all planned looping mains) and fire flow (Robert Road)	2024	\$5,368,654	35%	Yes								\$5,368,654	\$5,368,654	\$1,879,029	\$3,489,625		
Grapevine Growth - 12" and 16" Pipes	2020	\$2,252,216	100%	No						\$2,252,216				\$2,252,216	\$0	\$2,252,216	
Zone 4 Growth-16" main to the northwest of existing Zone 4	2017	\$4,857,977	100%	No			\$4,857,977							\$4,857,977	\$0	\$4,857,977	
Zone 2/Viewpoint/Pronghorn Improvements-including large mains along SR89A	2020	\$3,705,681	100%	No						\$3,705,681				\$3,705,681	\$0	\$3,705,681	
Zone 5 Growth-12" main to extended Zone 5 northwest of existing Zone 5	2017	\$1,558,219	100%	No			\$1,558,219							\$1,558,219	\$0	\$1,558,219	
New Triplex 20" Discharge Main	2018	\$1,741,539	50%	Yes				\$1,741,539						\$1,741,539	\$870,770	\$870,770	
Viewpoint/Pronghorn Improvements includes 12" looping mains and 24" main along SR 89A	2017	\$5,964,444	100%	No			\$5,964,444							\$5,964,444	\$0	\$5,964,444	
Zone 7 Improvements - Parallel tank discharge line and Zone 7 reinforcements	2020	\$314,263	0%	No						\$0	\$314,263			\$314,263	\$0	\$314,263	
Zone 10 Improvements - Looping mains along Tonto	2020	\$746,374	0%	No						\$0	\$746,374			\$746,374	\$0	\$746,374	
Zone 4 Improvements-Looping mains along Antelope, Bison, Castle, Kings Hwy and Frontage Road	2024	\$2,671,233	100%	No								\$2,671,233	\$2,671,233	\$0	\$2,671,233		
New PRV station at Glassford Hill Road and Lakeshore Drive	2018	\$100,826	100%	Yes				\$100,826						\$100,826	\$100,826		
<b>Total New Mains</b>		\$30,525,383			\$0	\$0	\$12,380,641	\$1,842,365	\$1,243,956	\$5,957,897	\$1,060,637	\$0	\$0	\$8,039,887	\$30,525,383	\$2,850,624	\$27,674,758
<b>Total Water CIP</b>		\$41,291,579			\$0	\$1,200,000	\$15,911,422	\$1,842,365	\$1,243,956	\$9,326,753	\$1,060,637	\$0	\$1,200,000	\$9,506,446	\$41,291,579	\$10,086,039	\$31,205,540

# Forecast of New Development

# Appendix B

Land Use	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Single Family Residential - Specific Developments										
StoneRidge	43	45	47	49	51	54	56	59	61	64
Total Developed	1,011	1,056	1,103	1,152	1,203	1,257	1,313	1,372	1,433	1,497
YOY % Growth	4.4%	4.5%	4.5%	4.4%	4.4%	4.5%	4.5%	4.5%	4.4%	4.5%
Pronghorn Ranch	33	34	36	37	39	41	43	45	47	49
Total Developed	772	806	842	879	918	959	1,002	1,047	1,094	1,143
YOY % Growth	4.5%	4.4%	4.5%	4.4%	4.4%	4.5%	4.5%	4.5%	4.5%	4.5%
Granville	58	61	64	67	70	73	76	79	83	87
Total Developed	1,364	1,425	1,489	1,556	1,626	1,699	1,775	1,854	1,937	2,024
YOY % Growth	4.4%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Mingus West	4	4	4	5	5	5	5	6	6	6
Total Developed	107	111	115	120	125	130	135	141	147	153
YOY % Growth	3.9%	3.7%	3.6%	4.3%	4.2%	4.0%	3.8%	4.4%	4.3%	4.1%
Prescott Country Club - 6	3	3	3	4	4	4	4	4	4	5
Total Developed	83	86	89	93	97	101	105	109	113	118
YOY % Growth	3.8%	3.6%	3.5%	4.5%	4.3%	4.1%	4.0%	3.8%	3.7%	4.4%
Viewpoint	56	58	61	63	66	69	72	76	79	83
Total Developed	1,303	1,361	1,422	1,485	1,551	1,620	1,692	1,768	1,847	1,930
YOY % Growth	4.5%	4.5%	4.5%	4.4%	4.4%	4.4%	4.4%	4.5%	4.5%	4.5%
Quailwood Meadows & Townhomes	29	31	32	33	35	37	38	40	57	0
Total Developed	692	723	755	788	823	860	898	938	995	995
YOY % Growth	4.4%	4.5%	4.4%	4.4%	4.4%	4.5%	4.4%	4.5%	6.1%	0.0%
Single Family Residential Other	187	185	182	180	176	172	169	164	145	197
Total Single Family Residential	413	421	429	438	446	455	463	473	482	491
Multi-Family Residential	181	186	191	197	202	208	213	219	225	232
Mobile Homes	120	124	128	133	138	143	148	153	158	164
Non-Residential										
Incremental Square Footage of Development	139,724	143,833	148,074	152,452	156,972	161,637	166,454	171,428	176,563	181,866
Estimated Fixture Units	377	377	377	402	402	402	427	427	427	427

# Water Capacity Fee Fund Cash Flow

# Appendix C

Metric	Forecast										Total FY 15-24	
	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24		
<b>Sources of Funds</b>												
Water Capacity Fee Receipts												
Single Family Residential	\$578,849	\$652,125	\$664,803	\$684,306	\$696,983	\$709,661	\$722,338	\$740,397	\$754,342	\$770,999		6,974,803
Multi-Family	202,921	222,040	228,123	235,220	241,303	248,401	254,484	261,581	268,678	276,789		
Mobile Home	134,328	148,026	153,096	158,165	164,249	170,332	176,415	182,498	188,582	195,679		
Non-Residential	21,127	22,484	22,484	23,975	23,975	23,975	25,466	25,466	25,466	25,466		
Total Water Capacity Fee Receipts	937,225	1,044,676	1,068,506	1,101,666	1,126,510	1,152,368	1,178,703	1,209,942	1,237,068	1,268,934		11,325,599
<b>Debt Proceeds</b>												
New Bond Issue	0	0	0	0	0	0	0	0	0	0		0
Total Sources of Funds	937,225	1,044,676	1,068,506	1,101,666	1,126,510	1,152,368	1,178,703	1,209,942	1,237,068	1,268,934		11,325,599
<b>Uses of Funds</b>												
Developer Credits	0	0	0	0	0	0	0	0	0	0		0
<b>CIP Expenditures Paid by Capacity Fees</b>												
Wells	0	0	1,200,000	0	0	750,000	0	0	1,200,000	1,466,559		
Tanks	0	0	0	0	0	2,618,856	0	0	0	0		
Booster Pumps	0	0	0	0	0	0	0	0	0	0		
Mains	0	0	0	971,595	0	0	0	0	0	1,879,029		
Total CIP Expenditures Paid by Capacity Fees	0	0	1,200,000	971,595	0	3,368,856	0	0	1,200,000	3,345,588		10,086,039
Total Debt Service	0	0	0	0	0	0	0	0	0	0		0
Total Uses of Funds	0	0	1,200,000	971,595	0	3,368,856	0	0	1,200,000	3,345,588		10,086,039
Annual Surplus / (Deficit)	937,225	1,044,676	(131,494)	130,071	1,126,510	(2,216,487)	1,178,703	1,209,942	37,068	(2,076,654)		1,239,560
Beginning Balance	0	937,225	1,981,901	1,850,406	1,980,477	3,106,988	890,500	2,069,204	3,279,146	3,316,214		
Add: Surplus / (Deficit)	937,225	1,044,676	(131,494)	130,071	1,126,510	(2,216,487)	1,178,703	1,209,942	37,068	(2,076,654)		
Ending Balance	\$937,225	\$1,981,901	\$1,850,406	\$1,980,477	\$3,106,988	\$890,500	\$2,069,204	\$3,279,146	\$3,316,214	\$1,239,560		

Detail of Planned Wastewater CIP Expenditures

Appendix D

Project Description	Cost in 2014 Dollars	% Growth	Paid by Capacity Fees	Forecast CIP Expenditures										Total CIP	CIP Paid by Capacity Fees	CIP Paid by Other Sources
				FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24			
Collection and Conveyance System																
Collection System Development Along the Highway 89A corridor	\$482,361	100.0%	Yes						\$482,361					\$482,361	\$482,361	\$0
Roundup Drive Gravity Main Replacements	\$452,214	80.7%	Yes	\$452,214										\$452,214	\$364,936	\$87,277
Viewpoint Interceptor Gravity Main Replacement	\$130,183	88.6%	Yes				\$130,183							\$130,183	\$115,342	\$14,841
Gravity Main Additions Serving Granville (off-site up-sizing)	\$1,233,310	86.4%	Yes		\$1,233,310									\$1,233,310	\$1,065,580	\$167,730
Gravity Mains Replacement East of Ranger Road	\$807,133	84.8%	Yes	\$807,133										\$807,133	\$684,449	\$122,684
Total Collection and Conveyance CIP	\$3,105,200			\$1,259,346	\$1,233,310	\$0	\$130,183	\$0	\$482,361	\$0	\$0	\$0	\$0	\$3,105,200	\$2,712,668	\$392,532
Wastewater Treatment																
Headworks Improvements	\$1,712,930	50.0%	Yes			\$1,712,930								\$1,712,930	\$856,465	\$856,465
	\$1,712,930			\$0	\$0	\$1,712,930	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,712,930	\$856,465	\$856,465
Total Wastewater CIP	\$4,818,131	100.0%		\$1,259,346	\$1,233,310	\$1,712,930	\$130,183	\$0	\$482,361	\$0	\$0	\$0	\$0	\$4,818,131	\$3,569,133	\$1,248,998

# Wastewater Capacity Fee Fund Revenue Forecast

# Appendix E

Metric											Total
	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 15- 24
<b>Sources of Funds</b>											
Wastewater Capacity Fee Receipts											
Single Family Residential	\$1,275,698	\$1,324,336	\$1,349,957	\$1,391,166	\$1,416,787	\$1,442,408	\$1,468,029	\$1,505,550	\$1,533,733	\$1,568,166	14,275,832
Multi-Family	447,282	448,878	461,176	475,523	487,821	502,169	514,467	528,815	543,162	559,560	4,968,853
Mobile Home	185,055	187,032	193,438	199,843	207,529	215,215	222,902	230,588	238,274	247,241	2,127,117
Non-Residential	46,567	45,451	45,451	48,465	48,465	48,465	51,479	51,479	51,479	51,479	488,781
Total Wastewater Capacity Fee Receipts	1,954,602	2,005,697	2,050,022	2,114,998	2,160,603	2,208,258	2,256,877	2,316,432	2,366,649	2,426,447	21,860,584
Debt Proceeds											
New Bond Issue	0	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	1,954,602	2,005,697	2,050,022	2,114,998	2,160,603	2,208,258	2,256,877	2,316,432	2,366,649	2,426,447	21,860,584
<b>Uses of Funds</b>											
Developer Credits	0	0	0	0	0	0	0	0	0	0	0
CIP Expenditures Paid by Capacity Fees											
Collection and Conveyance	1,049,385	1,065,580	0	115,342	0	482,361	0	0	0	0	2,712,668
Treatment Plant	0	0	856,465	0	0	0	0	0	0	0	856,465
Total CIP Expenditures Paid by Capacity Fees	1,049,385	1,065,580	856,465	115,342	0	482,361	0	0	0	0	3,569,133
Debt Service from Existing Debt											
Bond Issuance Costs											0
Principal	694,322	717,309	741,059	773,375	816,969	844,202	872,163	901,049	930,894	969,335	8,260,677
Interest	296,468	272,718	248,180	222,828	196,636	169,574	141,616	112,728	82,882	52,046	1,795,676
Total Existing Debt Service	990,790	990,027	989,239	996,203	1,013,605	1,013,776	1,013,779	1,013,777	1,013,776	1,021,381	10,056,353
Debt Service from Proposed Debt											
Bond Issuance Costs	0	0	0	0	0	0	0	0	0	0	0
Principal	0	0	0	0	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0	0	0	0	0
Total Proposed Debt Service	0	0	0	0	0	0	0	0	0	0	0
Total Debt Service	990,790	990,027	989,239	996,203	1,013,605	1,013,776	1,013,779	1,013,777	1,013,776	1,021,381	10,056,353
Total Uses of Funds	2,040,175	2,055,607	1,845,704	1,111,545	1,013,605	1,496,137	1,013,779	1,013,777	1,013,776	1,021,381	13,625,486
Annual Surplus / (Deficit)	(85,573)	(49,909)	204,317	1,003,453	1,146,998	712,120	1,243,098	1,302,655	1,352,873	1,405,066	8,235,097
Beginning Balance	0	(85,573)	(135,482)	68,835	1,072,288	2,219,286	2,931,406	4,174,504	5,477,159	6,830,032	
Add: Surplus / (Deficit)	(85,573)	(49,909)	204,317	1,003,453	1,146,998	712,120	1,243,098	1,302,655	1,352,873	1,405,066	
Ending Balance	(\$85,573)	(\$135,482)	\$68,835	\$1,072,288	\$2,219,286	\$2,931,406	\$4,174,504	\$5,477,159	\$6,830,032	\$8,235,097	