San Antonio Water System

2800 U.S. Highway 281 North • P.O. Box 2449 • San Antonio, TX 78298

Water and Wastewater Facilities Land Use Assumptions Plan, Capital Improvements Plan, and Maximum Impact Fees

March 2014

Report Prepared By:

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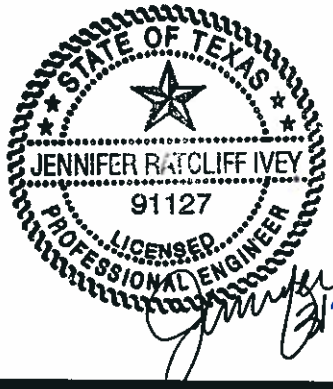

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AACOG	Alamo Area Council of Governments
ADD	Average Day Demand
ADF	Average Daily Flow
AWWA	American Water Works Association
BCAD	Bexar County Appraisal District
BMWD	Bexar Metropolitan Water District
CCN	Certificate of Convenience and Necessity
CIAC	Capital Improvements Advisory Committee
CIP	Capital Improvements Plan
DOR	Drought of Record
EAA	Edwards Aquifer Authority
EDU	Equivalent Dwelling Unit
EST	Elevated Storage Tank
ETJ	Extra-territorial Jurisdiction
gpcd	Gallons per Capita per Day
gpd	Gallons per Day
GST	Ground Storage Tank
LUAP	Land Use Assumptions Plan
MDD	Maximum Day Demand
MDPF	Maximum Day Peaking Factor
MG	Million Gallons
mgd	Millions of Gallons per Day
MHD	Maximum Hour Demand
MHPF	Maximum Hour Peaking Factor
MPO	San Antonio / Bexar County Metropolitan Planning Organization
MRSO	Medina River Sewer Outfall
PWWF	Peak Wet Weather Flow
SAWS	San Antonio Water System
SBSP	Southwest Bexar Sewer Pipeline
SDC	State Data Center (Office of State Demographer)
TAZ	Transportation Analysis Zone
TCEQ	Texas Commission on Environmental Quality
TLGC	Texas Local Government Code
TWDB	Texas Water Development Board
TxDOT	Texas Department of Transportation
WRC	Water Recycling Center

Available existing capacity – capacity that has been constructed but is not yet utilized because existing demand is less than existing capacity.

Average day demand (ADD) – the average number of gallons of water used by each person each day. SAWS' ADD is 127 gallons per capita per day, based on actual water production data for the 12 months ending June 2010.

Average daily flow (ADF) – the average number of gallons of wastewater contributed by each person (or equivalent dwelling unit) per day. SAWS' ADF is 240 gallons per EDU.

Capacity criteria – the capacity required to serve new growth projected for the study period at the same service level provided to existing customers.

Capital improvement – any of the following facilities that have a life expectancy of three or more years and are owned and operated by or on behalf of a political subdivision:

- Water supply, treatment, and distribution facilities; wastewater collection and treatment facilities; and storm water, drainage, and flood control facilities; whether or not they are located within the service area; and
- Roadway facilities.(Texas Local Government Code, Chapter 395)

Capital Improvements Advisory Committee (CIAC) – a committee composed of not less than five members appointed by a majority vote of the governing body of the political subdivision. Not less than 40% of the membership must be representatives of the real estate, development, or building industries who are not employees or officials of a political subdivision or governmental entity.

Capital Improvements Plan – a plan required by Chapter 395 of the Local Government Code that identifies capital improvements or facility expansions for which impact fees may be assessed. (Texas Local Government Code, Chapter 395)

Certificate of Convenience and Necessity (CCN) – issued by the TCEQ, authorizes a utility to provide water and/or sewer service to a specific area. The CCN obligates the water or sewer retail public utility to provide continuous and adequate service to every customer who requests service in that area.

Debt service payments – the amounts of money necessary to pay interest and principal requirements for a given or series of years.(American Water Works Association, 2000)

Equivalent Dwelling Unit (EDU) – standardized measure of demand expressed as water flow for an average household unit. For purposes of this study, single family residence using a 5/8-inch meter has one EDU demand on the water system. Also referred to as a service unit in TLGC Chapter 395.

Facility expansion – the expansion of the capacity of an existing facility that serves the same function as an otherwise necessary new capital improvement, in order that the existing facility may serve new development. The term does not include the repair, maintenance, modernization, or expansion of an existing facility to better serve existing development. (Texas Local Government Code, Chapter 395)

Impact fee – a charge or assessment imposed by a political subdivision against new development in order to generate revenue for funding or recouping the costs of capital improvements or facility expansions necessitated by and attributable to the new development. The term includes amortized charges, lump-sum charges, capital recovery fees, contributions in aid of construction, and any other fee that functions as described by this definition. (Texas Local Government Code, Chapter 395)

Land Use Assumptions – a description of the service area and projections of changes in land uses, densities, intensities, and population in the service area over at least a 10-year period. (Texas Local Government Code, Chapter 395)

Maximum Allowable Impact Fees – Maximum impact fees that can be charged by a political subdivision; calculated by subtracting statutory credits for the estimated capital costs to be included in rates that will be charged to the new service units over the study period from the calculated impact fee per service unit.

Maximum Day Demand (MDD) – the maximum number of gallons of water used in the system in one day. This is typically represented by the highest volume of water pumped into the distribution system in one day each year.

Maximum Day Peaking Factor (MDPF) – factor used to project future maximum day demands; calculated by dividing the maximum day pumpage value by the design average day demand value. Based on actual water production data for the 12 months ending June 2011, the SAWS MDPF is 2.50.

Maximum Hour Demand (MHD) – the maximum number of gallons of water used in the system in one hour.

Maximum Hour Peaking Factor (MHPF) – factor used to project future maximum hour demands; calculated by dividing the maximum hour pumpage value by the design average day demand value. Based on actual water production data for the 12 months ending June 2011, the SAWS MHPF is 2.81.

New development – the subdivision of land; the construction, reconstruction, redevelopment, conversion, structural alteration, relocation, or enlargement of any structure; or any use or extension of the use of land; any of which increases the number of service units. (Texas Local Government Code, Chapter 395)

Peak Wet Weather Flow (PWWF) – the maximum number of gallons of wastewater contributed by customers during a wet weather event. This value includes inflow and infiltration that is attributable to the system's customer connections. SAWS' design PWWF is 675 gpd per EDU. This is based on 4 EDUs per acre. Inflow and infiltration is 300 gallons per acre.

Political subdivision – a municipality, a district or authority created under Article III, Section 52, or Article XVI, Section 59, of the Texas Constitution, or, for the purposes set forth by Section 395.079, certain counties described by that section. (Texas Local Government Code, Chapter 395)

Rate credit – a credit for the portion of ad valorem tax and utility service revenues generated by new service units during the program period that is used for the payment of improvements, including the payment of debt, that are included in the Capital Improvements Plan. As an alternative to calculating this credit, a political subdivision may award a credit equal to 50 percent of the total projected cost of implementing the Capital Improvements Plan. (Texas Local Government Code, Chapter 395)

Service area – the area within the corporate boundaries or extraterritorial jurisdiction, as determined under Chapter 42, of the political subdivision to be served by the capital improvements or facilities expansions specified in the capital improvements plan, except roadway facilities and storm water, drainage, and flood control facilities. (Texas Local Government Code, Chapter 395)

Service unit – a standardized measure of consumption, use, generation, or discharge attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years. (Texas Local Government Code, Chapter 395)

Study period – the period of time for which the impact fees are calculated. The study period is defined by the Capital Improvements Plan and may not exceed 10 years. Typically, a study period of 10 years is used.

1. Executive Summary

1.1. Introduction

The Texas Local Government Code (TLGC), Chapter 395 authorizes a political subdivision, such as the San Antonio Water System (SAWS), to impose impact fees on new development within its corporate boundaries and extraterritorial jurisdiction (ETJ). Impact fees provide utilities with a mechanism for funding or recouping the cost associated with capital improvements or facility expansions of the water and/or wastewater systems necessitated and attributable to new development.

The San Antonio Water System updated impact fees in May 2011. In January 2012, SAWS began integration of the former Bexar Metropolitan Water District (Bexar Met) into one combined system. Bexar Met updated their impact fees in June 2009, and those impact fees require update by June 2014. This update of the impact fees for the combined system is an important step in the integration of the former Bexar Met system with SAWS.

SAWS is updating the impact fees as an integrated system. The revised Water Supply, Water Delivery – Flow and Water Delivery – System Development impact fees will be based on the combined water service areas.

Red Oak calculated the following impact fees by service area:

- Water Supply
- Water Delivery – Flow
- Water Delivery – System Development
- Wastewater Treatment
- Wastewater Collection

1.2. Land Use Assumptions Plan

Future land use assumptions are based on current land use data. For SAWS, these assumptions are primarily based on Bexar County Appraisal District (BCAD) databases and supplemented with SAWS customer data, Alamo Area Council of Governments (AACOG) land use studies as well as aerial photo documentation. Table 1-1 presents the service area land use distribution.

Table 1-1: Service Area Land Use Distribution

Land Use	Water		Wastewater	
	Acres	%	Acres	%
Commercial	118,043	20%	116,605	21%
Industrial	5,675	1%	5,675	1%
Residential	124,447	21%	122,866	23%
Undevelopable	76,875	13%	67,865	12%
Vacant	261,106	45%	230,217	42%
Total Acres	**586,147**		**543,228**	

Population data is collected and converted into Equivalent Dwelling Units (EDU), the standard measure of demand expressed as water usage and wastewater discharge for an average household unit. One water EDU is equivalent to 313 gallons per day; a wastewater EDU is equivalent to 240 gallons per day.

Table 1-2 presents population and EDU projections for water and wastewater by service areas.

Table 1-2: Water and Wastewater Service Area Population and EDU Projections

		-----Population-----		----------EDUs----------		
	Service Area	2014	2023	2014	2023	Change
Water Supply	**All**	**1,674,505**	**1,904,466**	**697,710**	**793,528**	**95,817**
Flow	**All**	**1,674,505**	**1,904,466**	**697,710**	**793,528**	**95,817**
System Development	High Elevation	44,747	65,826	18,645	27,428	8,783
	Middle Elevation	538,582	647,218	224,409	269,674	45,265
	Low Elevation	1,091,176	1,191,422	454,657	496,426	41,769
System Development	**Total System Development**	**1,674,505**	**1,904,466**	**697,710**	**793,528**	**95,817**
Treatment	Medio Creek	92,266	113,389	38,605	47,443	8,838
	Leon Creek / Dos Rios	1,474,671	1,682,008	617,018	703,769	86,751
Treatment	**Total Treatment**	**1,566,937**	**1,795,397**	**655,623**	**751,212**	**95,589**
Collection	Medio Creek	92,266	113,389	38,605	47,443	8,838
	Upper Medina	44,124	88,922	18,462	37,206	18,744
	Lower Medina	19,786	28,777	8,279	12,041	3,762
	Upper Collection	353,873	439,169	148,064	183,753	35,689
	Middle Collection	546,490	575,286	228,657	240,705	12,048
	Lower Collection	510,398	549,854	213,556	230,064	16,508
Collection	**Total Collection**	**1,566,937**	**1,795,397**	**655,623**	**751,212**	**95,589**

1.3. Capital Improvements Plan

SAWS owns and operates an infrastructure-intensive system comprised of treatment facilities, pumping stations, storage facilities, and pipelines that are continuously improved and expanded. The schedule for future investment in the water and wastewater system is known as the Capital Improvements Plan (CIP). SAWS staff, with assistance from Red Oak and other consultants, updated the CIP as part of this study.

Projects included in the CIP can serve to rehabilitate and renew the system, enhance the system to improve efficiency and meet regulatory requirements, increase the system

capacity, or achieve a combination of these objectives. However, only those projects required to provide capacity to serve new development during the 2014-2023 study period can be included in the maximum impact fee calculation.

Tables 1-3 through 1-9 provide the value of water facilities by infrastructure type that are eligible to be included in the calculation of the maximum water impact fee.

Table 1-3: 2014 - 2023 Eligible Water Supply CIP Cost

	--------Existing Capacity--------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
All	$294.3	$7.3	$0.0	$713.9	$275.1	$0.0	$1,008.1	$282.4

Table 1-4: 2014 - 2023 Eligible Water Flow CIP Cost

	--------Existing Capacity--------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
All	$610.8	$61.1	$24.3	$210.2	$36.2	$0.0	$821.0	$121.5

Table 1-5: 2014 - 2023 Eligible Well Pumps CIP Cost

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
All	$84.9	$6.2	$2.4	$42.4	$17.0	$0.0	$127.3	$25.6

Table 1-6: 2014 - 2023 Eligible High Service and Booster Pump Stations CIP Cost

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$9.6	$1.0	$0.4	$6.8	$1.0	$0.0	$16.5	$2.4
Middle Elevation	39.9	3.5	1.4	20.0	4.0	0.0	59.9	8.9
Low Elevation	48.9	2.9	1.2	9.5	3.0	0.0	58.4	7.2
Total	**$98.4**	**$7.4**	**$3.0**	**$36.3**	**$8.0**	**$0.0**	**$134.8**	**$18.5**

Table 1-7: 2014 - 2023 Eligible Elevated Storage CIP Cost

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$3.3	$0.4	$0.2	$6.3	$1.2	$0.0	$9.6	$1.7
Middle Elevation	20.9	1.3	0.5	24.9	2.7	0.0	45.9	4.5
Low Elevation	28.7	1.0	0.4	30.1	1.9	0.0	58.8	3.3
Total	**$52.9**	**$2.7**	**$1.1**	**$61.3**	**$5.8**	**$0.0**	**$114.3**	**$9.5**

Table 1-8: 2014 - 2023 Eligible Ground Storage CIP Cost

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$0.9	$0.0	$0.0	$0.0	$0.0	$0.0	$0.9	$0.0
Middle Elevation	13.2	0.4	0.1	16.1	0.6	0.0	29.4	1.0
Low Elevation	25.9	0.6	0.3	8.6	0.3	0.0	34.5	1.2
Total	**$40.0**	**$1.0**	**$0.4**	**$24.7**	**$0.9**	**$0.0**	**$64.8**	**$2.2**

Table 1-9: 2014 - 2023 Eligible Water Transmission Mains CIP Cost

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$5.1	$0.5	$0.2	$5.7	$0.8	$0.0	$10.9	$1.6
Middle Elevation	21.4	1.9	0.7	44.1	8.9	0.0	65.6	11.6
Low Elevation	26.3	1.6	0.6	7.5	2.4	0.0	33.8	4.6
Total	**$52.8**	**$4.0**	**$1.5**	**$57.3**	**$12.1**	**$0.0**	**$110.3**	**$17.8**

Table 1-10 summarizes the eligible Water Delivery – System Development CIP costs by service area.

Table 1-10: 2014 – 2023 Eligible Water Delivery – System Development CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$21.2	$2.5	$1.0	$22.8	$4.6	$0.0	$44.0	$8.1
Middle Elevation	122.8	10.0	3.8	125.3	24.2	0.0	248.1	38.1
Low Elevation	185.1	8.8	3.5	74.2	15.0	0.0	259.3	27.4
Total	**$329.1**	**$21.3**	**$8.4**	**$222.3**	**$43.8**	**$0.0**	**$551.4**	**$73.6**

Table 1-11 and Table 1-12 provide the value of wastewater facilities that are eligible to be included in the calculation of the maximum wastewater impact fee.

Table 1-11: 2014 - 2023 Eligible Wastewater Treatment CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
Medio Creek	$62.2	$7.4	$3.0	$25.5 (1)	$3.0	$0.0	$87.7	$13.4
Leon Creek / Dos Rios	317.6	34.6	13.9	215.0 (2)	24.8	0.0	532.6	73.3
Total	**$379.8**	**$42.0**	**$16.9**	**$240.5**	**$27.8**	**$0.0**	**$620.3**	**$86.7**

(1) These CIP projects do not add capacity, but increase the value of existing available capacity. They are listed in Appendix B, Table B-14.

(2) Some of these CIP projects do not add capacity, but increase the value of existing available capacity. They are listed in Appendix B, Table B-14.

Table 1-12: 2014 - 2023 Eligible Wastewater Collection CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
Medio	$17.3	$1.9	$0.8	$29.8	$4.9	$0.0	$47.1	$7.6
Upper Medina	34.6	9.4	3.7	32.4	8.4	0.0	67.0	21.5
Lower Medina	28.5	6.2	2.5	25.5	2.7	0.0	54.0	11.4
Upper Collection	85.6	13.6	5.5	124.2	20.3	0.0	209.8	39.4
Middle Collection	153.1	14.1	5.7	292.5	18.0	0.0	445.6	37.8
Lower Collection	300.3	23.8	9.5	267.7	16.0	0.0	568.0	49.3
Total	**$619.4**	**$69.0**	**$27.7**	**$772.1**	**$70.3**	**$0.0**	**$1,391.5**	**$167.0**

Table 1-13 summarizes the total eligible CIP costs by impact fee category.

Table 1-13: Summary of 2014 - 2023 Eligible CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
Water Delivery	$939.8	$82.4	$32.7	$432.2	$80.0	$0.0	$1,372.5	$195.1
Water Supply	294.3	7.3	0.0	713.9	275.1	0.0	1,008.1	282.4
Wastewater	999.2	111.0	44.6	1,012.6	98.1	0.0	2,011.8	253.7
Total	**$2,233.3**	**$200.7**	**$77.3**	**$2,158.7**	**$453.2**	**$0.0**	**$4,392.4**	**$731.2**

1.4. Impact Fees Calculation

Eligible capital costs for growth-related CIP by service area are divided by the projected number of total service units for that service area to determine the calculated impact fee per service unit. Table 1-14 presents the calculated impact fees for water and wastewater service. The service units used in this calculation, as shown in Table 1-14, represent the incremental service units, which may include service units from another service area, that will be served by the infrastructure in the respective service area. They do not represent

the incremental service units that will be located in the service area, which are shown in Table 1-2.

Table 1-14: Water and Wastewater Calculated Impact Fees

Impact Fee	Service Area	Eligible CIP Value	Service Units	Calculated Impact Fee per Service Unit
Water Supply	All	$282,391,017	95,817	$2,947
Flow	All	121,466,247	95,817	1,268
System Development	High Elevation	8,104,346	8,783	923
	Middle Elevation	38,147,533	45,265	843
	Low Elevation	27,444,441	41,769	657
Treatment	Medio Creek	13,385,880	8,838	1,515
	Leon Creek / Dos Rios	73,298,089	86,751	845
Collection	Medio Creek	7,627,627	8,838	863
	Upper Medina(1)	21,475,227	18,744	1,651
	Lower Medina	11,374,282	22,506	505
	Upper Collection(2)	39,431,580	35,689	2,666
	Middle Collection(3)	37,842,239	47,737	1,561
	Lower Collection	49,342,780	64,245	768

(1) Maximum Impact Fee per Service Unit includes Lower Medina fee
(2) Maximum Impact Fee per Service Unit includes Middle Collection fee
(3) Maximum Impact Fee per Service Unit includes Lower Collection fee

1.4.1. Credit Calculation

Chapter 395 of the TLGC requires utilities to calculate a credit for growth-related CIP, to be subtracted from the calculated impact fee. The credit is based on the amount of projected future rate revenues or taxes expected to be generated by the new development and used to pay for capital improvements identified in the CIP.[1] This credit provides an adjustment to benefit fee payers who will pay for CIP in both the impact fee and their future rates or taxes. Although SAWS is a municipally-owned utility, it is managed separately and independently from the City of San Antonio, including, the City's tax revenue and budget. SAWS relies on the revenue it generates from its customers to construct, manage, and operate its water and wastewater systems. Therefore, no tax revenue is used to fund the growth-related CIP. Utilities can calculate this credit and apply it to the calculated impact fee or, alternatively, can forgo the credit calculation by opting to use the statutory credit equal to 50% of the calculated impact fee. SAWS opted to calculate the credit.

Credits for the value of existing and future debt are allocated among the impact fees and service areas based on the proportion of eligible existing and future capacity value. SAWS plans to fund most of its growth-related CIP with cash from impact fee revenues. However, it plans to fund approximately 50% of the Water Supply CIP and 70% of all other future CIP with debt.

[1] For SAWS, the credit is based on the cost of growth-related CIP projected to be in future rates of the projected new development as they do not receive tax revenue from the City of San Antonio.

1.4.2. Maximum Impact Fees per Service Unit

The maximum impact fees per service unit include both the existing value of infrastructure with capacity available to serve new development projected for the study period, 2014 through 2023, as well as the value of new water supply, water delivery, and wastewater capacity available to serve new development during the study period. Calculated impact fees, rate credits, and maximum impact fees by service area are presented in Table 1-15.

Table 1-15: Maximum Water and Wastewater Impact Fees per Service Unit

Impact Fee	Service Area	Calculated Impact Fee per EDU	Calculated Rate Credit/EDU	Maximum Impact Fee per EDU
Water Supply	All	$2,947	$151	$2,796
Flow	All	1,268	86	1,182
System Development	High Elevation	923	40	883
	Middle Elevation	843	44	799
	Low Elevation	657	38	619
Treatment	Medio Creek	1,515	86	1,429
	Dos Rios/Leon Creek	845	59	786
Collection	Medio Creek	863	25	838
	Upper Medina	1,651	86	1,565
	Lower Medina	505	30	475
	Upper Collection	2,666	146	2,520
	Middle Collection	1,561	92	1,469
	Lower Collection	768	49	719

Table 1-16 compares the maximum impact fee per service unit to the current impact fee per service unit.

Table 1-16: Maximum Impact Fees per EDU versus Current Fees per EDU

Impact Fee	Service Area	Maximum Impact Fee per EDU	Current Fee per EDU	Change	% Change
Water Supply	All	$2,796	$1,297	$1,499	116%
Flow	All	1,182	1,247	(65)	-5%
System Development	High Elevation	883	966	(83)	-9%
	Middle Elevation	799	774	25	3%
	Low Elevation	619	579	40	7%
Treatment	Medio Creek	1,429	1,379	50	4%
	Dos Rios/Leon Creek	786	552	234	42%
Collection	Medio Creek	838	582	256	44%
	Upper Medina	1,565	1,053	512	49%
	Lower Medina	475	594	(119)	-20%
	Upper Collection	2,520	1,795	725	40%
	Middle Collection	1,469	1,142	327	29%
	Lower Collection	719	552	167	30%

2. Land Use Assumptions Plan[2]

2.1. Introduction

Chapter 395 of the Texas Local Government Code (TLGC) empowers cities to calculate, impose and collect impact fees to fund capital improvements required to serve new development. This legislation requires a utility to adopt a Land Use Assumptions Plan (LUAP) and a Capital Improvements Plan (CIP) before assessing or collecting impact fees. The CIP and the maximum allowable impact fees established therein must be derived using the adopted LUAP.

The LUAP incorporates the best information available to project future land use and demand for service areas in which a municipality intends to supply utility services. The areas are for Water Supply, System Development and Flow, as well as for Wastewater Treatment and Collection. Land use assumptions are based on a ten-year period. These assumptions may be general and do not require detailed projections for specific tracts of land.

The San Antonio Water System (SAWS) provides water and wastewater service to large portions of Bexar County and has authority to provide service to parts of two adjacent counties. State authority is provided by Certificate of Convenience & Necessity (CCN) and some service is provided by contract outside of the CCN. The following two maps, Figure 2-1 and Figure 2-2, show the general areas of service. The water system map shows areas of the Bexar County served by other purveyors. The wastewater system map shows the watersheds that flow into the water recycling centers (WRC) operated by SAWS.

[2] The Land Use Assumption Plan was prepared by SAWS staff. At SAWS request, Red Oak included the LUAP in this report as Section 2.

Figure 2-1: SAWS Water Service Areas

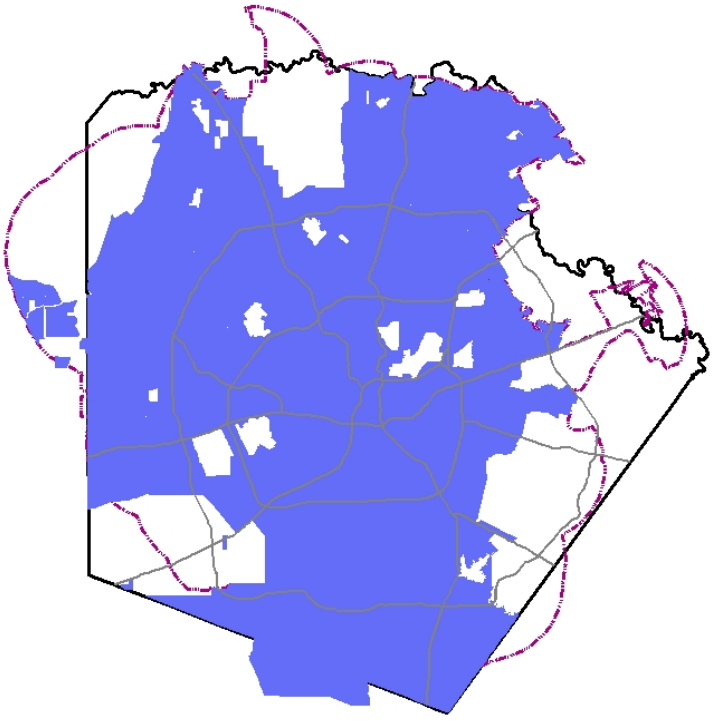
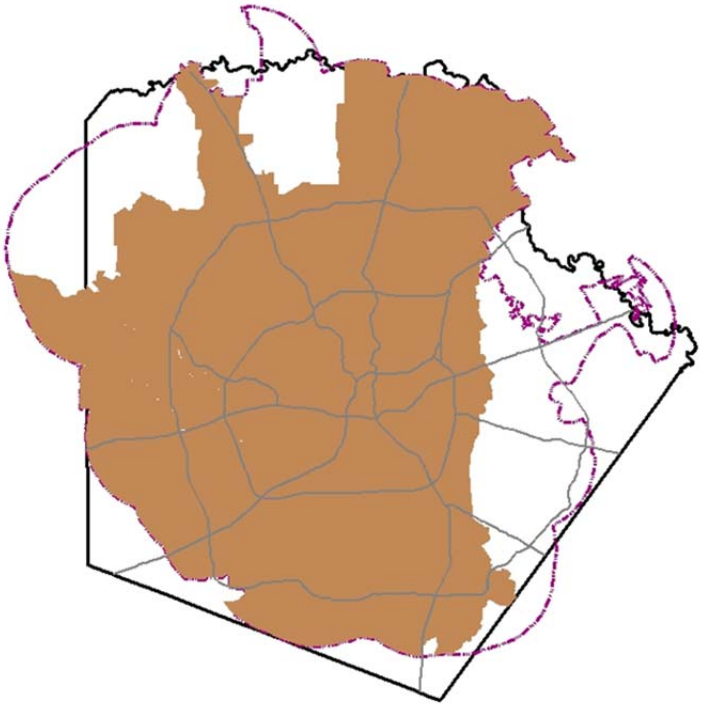


Figure 2-2: SAWS Wastewater Service Areas



2.2. Methodology

2.2.1. Current Land Use

Land use assumptions for the future are based on current land use. Current land use is primarily based on Bexar County Appraisal District (BCAD) databases but is supplanted with SAWS customer data, Alamo Area Council of Governments (AACOG) land use studies and some aerial photo documentation. The service area land use distribution is provided in Table 2-1.

Table 2-1: Service Area Land Use Distribution

Land Use	Water		Wastewater	
	Acres	%	Acres	%
Commercial	118,043	20%	116,605	21%
Industrial	5,675	1%	5,675	1%
Residential	124,447	21%	122,866	23%
Undevelopable	76,875	13%	67,865	12%
Vacant	261,106	45%	230,217	42%
Total Acres	**586,147**		**543,228**	

Specifically, undevelopable land includes parks, lakes, cemeteries, roads, landfills, easements and floodplains. Vacant land does not fall into other categories and could develop into any of the other categories.

2.2.2. Population and Projections

The San Antonio area has an adopted methodology for projecting population for use by many area agencies. This process coordinates information by state and local agencies as well as incorporates data from private sector master plans.

The population projections in this LUAP are based upon an area wide model, for assessing future transportation improvements. The San Antonio-Bexar County Metropolitan Planning Organization (MPO) is the coordinating body for this information and the model is run by AACOG. The particular model is called Dram/Empal and is the most widely used tool for regional projections in the United States. A committee composed of representatives from such agencies as SAWS, City of San Antonio and neighboring cities, Texas Department of Transportation (TxDOT), Texas Workforce Commission, City Public Service, and Bexar County serve as technical reviewers. Elected officials and Chambers of Commerce members also provide review.

The model projects allocated population within the MPO study area (Bexar County and parts of Comal and Guadalupe Counties). The population for the total area is consistent with projections provided by the Texas State Data Center (SDC) and the Texas Water Development Board (TWDB). The SDC projects county population using Census data, migration and birth rates within the state. The local modeling data inputs include existing

land uses, household sizes and birthrates, employment numbers and types, future roads and developable land. The model projects future households, population and employment based on common transportation and land use relationships as well as local demographic relationships based on the inputs.

The review team tests for quality control of the data and provides guidance to account for local expected projects or trends that may affect specific areas. The projections are reviewed by five-year increments to ensure that the modeled growth rates look within reason. Growth rates may be slightly re-allocated to reflect programs that the model does not seem to project well. These are areas where the City Council is formulating growth or economic development policies.

The model outputs are population, households and employment by 278 census tracts, as well as further allocations to 917 smaller Transportation Analysis Zones (TAZ). SAWS projections are based on the best fit of the TAZ boundaries to the LUAP boundaries.

2.3. EDU Calculations and Factors

For the LUAP, the common measure used is an Equivalent Dwelling Unit (EDU). This is the standardized measure of demand expressed as water flow for an average household unit. One water EDU equals 313 gallons per day (gpd). A single family residence using a 5/8-inch meter has one EDU demand on the water system. Commercial and industrial users have larger meters, more demand and larger numbers of EDUs. A wastewater EDU is equivalent to 240 gpd.

The Population to EDU factor is useful to represent population as demand, currently and in the future. The EDUs were calculated using the same 2012 data on which the 2012 Water Management Plan was based, which is being used to update the Water Infrastructure Plan (2014). The EDU calculation is shown in Table 2-2.

Table 2-2: Calculation of Water EDUs

Calculation of Water EDUs

1	2	3	4	5	6	7	8
	Active Meter	Apartment	(2 - 3)	Non-apartments	(4 * 5)	Apartment Units	(6 + 7)
Meter Size	Count	Master Meters	Meters	EDU/Meter Size	EDU	183,463	
5/8	394,855	1,456	393,399	1	393,399		
3/4	37,219	182	37,037	1.5	55,556		
1	12,669	583	12,086	2	24,172	93% occupancy	
1 1/2	7,022	344	6,678	5	33,390	170,621	
2	4,554	619	3,935	14	55,090		
3	853	210	643	30	19,290		
4	562	222	340	50	17,000		
6	210	197	13	105	1,365		
8	81	40	41	135	5,535		
10	18	7	11	190	2,090	1/2 units	
Total	**458,043**	**3,860**	**454,183**		**606,887**	**85,310**	**692,197**
2012 population		**1,659,593**		**Population/EDU =**	**2.40**		

Column 2 shows the distribution of meter sizes within the System. Since apartment master meter sizes are not clearly correlated to apartment use, they are removed until the end of the calculation. Column 5 shows the EDU to meter size ratio provided by the American Water Works Association (AWWA). This shows that a 1-inch meter can have a flow twice as much as a 5/8-inch meter. The total for column 6 is water system EDUs, without considering apartments. Apartment units represent at least 25% of housing units in San Antonio so their count is important to the EDU calculation. The total number of units is estimated from data provided by SAWS, CPS-Energy, the San Antonio Apartment Association, BCAD and private data sources. The private sources and the Census show a 93% occupancy rate for all apartments. Occupancy represents active apartment units. Past SAWS studies have shown that apartment water use represents 50% of residential water use. Each of these considerations yields the apartment EDU total.

The population for 2012 is estimated from census tracts, residential and apartment connection data. Quality control is conducted to compare TAZ estimates to connections and persons per household estimates.

Table 2-3 shows the calculation of wastewater EDUs.

Table 2-3: Calculation of Wastewater EDUs

Calculation of Wastewater EDUs

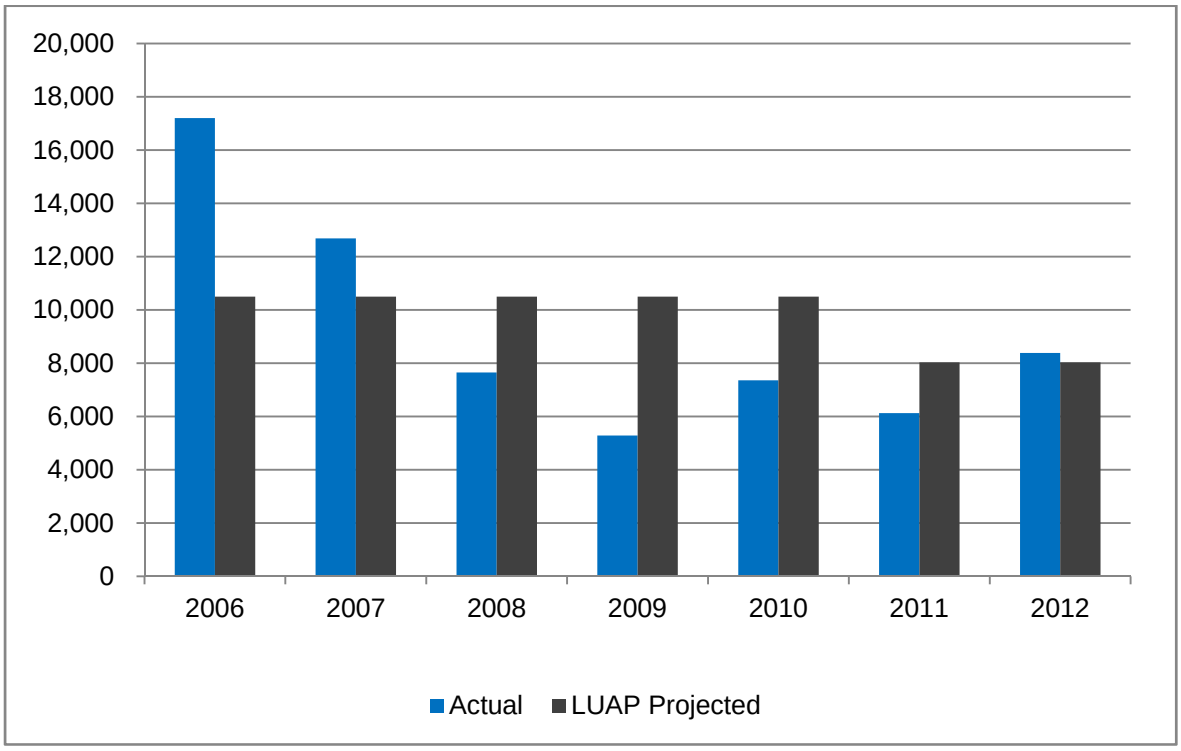
1	2	3	4	5	6	7	8	9
			(2 (total) - 3(total))* 4 percentages			(5 * 6)		(7 + 8)
	Active Meter	Apartment	Non-apartments				Apartment Units	
Meter Size	Count	Master Meters	Percent by Size*	Meters	EDU/Meter Size	EDUs	182,223	
5/8			86.62%	379,888	1	379,888		
3/4			8.15%	35,765	1.5	53,647		
1			2.66%	11,671	2	23,342		
1 1/2			1.47%	6,449	5	32,243		
2			0.87%	3,800	14	53,198		
3			0.14%	621	30	18,627		
4			0.07%	328	50	16,416	93% occupancy	
6			0.00%	13	105	1,318	169,467	
8			0.01%	40	135	5,345		
10			0.00%	11	190	2,018		
Adjustment for SARA and Leon Springs						(20,047)	1/2 units	
Total	**395,227**	**3,798**		**438,584**		**565,996**	**84,734**	**650,730**
2012 population		**1,552,024**			**Population/EDU =**	**2.39**		

The wastewater EDU calculation is similar to the water calculation, however the meter size distribution for the BexarMet water customers/SAWS sewer customers is assumed to be the same as the SAWS water system. The percentages in column 4 above correspond to active meter counts in column 2 in the water EDU table. EDUs are adjusted to remove customers of the San Antonio River Authority and Leon Springs utilities, and the final calculation yields a population to EDU ratio of 2.39.

The following chart shows the variability of EDU growth per year for the SAWS water system, excluding the DSP service area. The average yearly growth rate from 2006 to

2010 was 10,500 EDUs per year. The 2006 LUAP projected approximately 10,300 EDUs per year, and the 2011 LUAP projected approximately 8,000 EDUs per year.

Figure 2-3: Historical EDU Change



The following sections show the 2014 – 2023 service areas and associated land use, population and EDU change. The future EDU projection is the future population projection multiplied by the EDU to Population factor.

2.4. Service Areas

2.4.1. Water Service Areas

The changes from the existing water impact fee maps to the proposed maps are largely due to the addition of ten former Bexar service areas totaling 174,000 acres. SAWS driven changes located in the northwest portion of the county are due to a reduction in CCN application areas and an application for 21,000 acres that was withdrawn completely. SAWS was also granted a CCN application area that added 8,500 acres in the northeast portion of the SAWS service area.

2.4.1.1. Water Supply

Water Supply facilities are the infrastructure associated with providing new water sources to the system. The proposed Water Supply impact fee service area, shown in Figure 2-5,

is the infrastructure associated with providing new water sources to the System. The proposed Water Supply Service Area now includes the former Bexar Met service area and recent changes to CCN boundaries as well as pending application areas.

Figure 2-4: Existing Water Supply Impact Fee Service Area

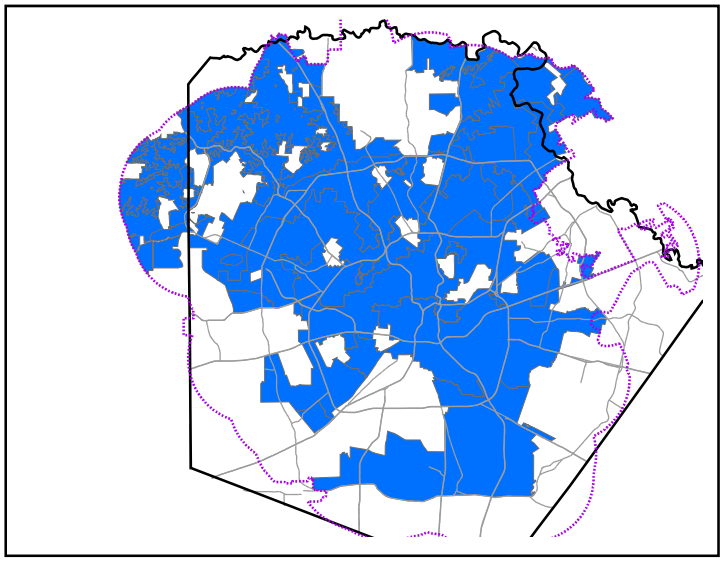
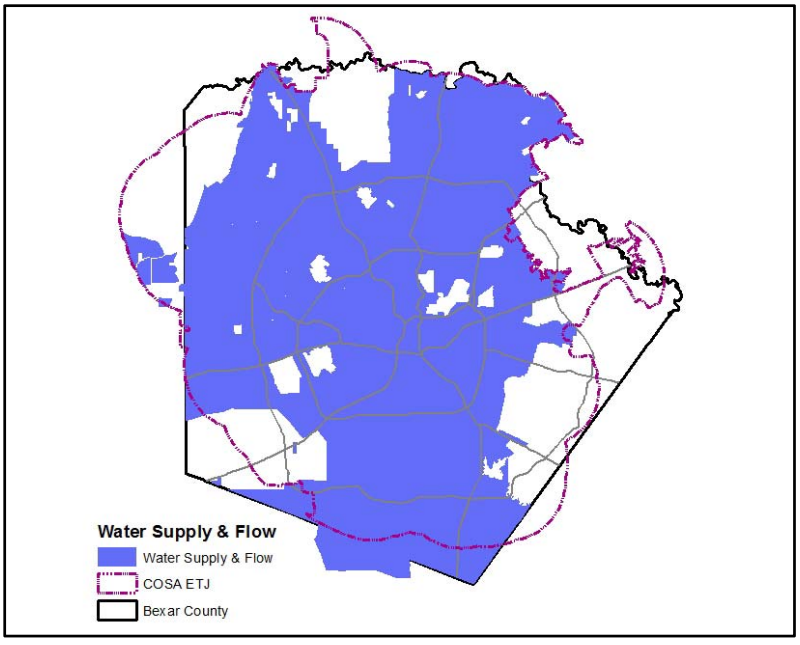


Figure 2-5: Proposed Water Supply Impact Fee Service Areas



2.4.1.2. Water Delivery – Flow

Flow facilities make up the distribution system. Currently, there is one impact fee service area for Flow. The proposed service area now includes the former Bexar Met service area and recent changes to CCN boundaries as well as pending application areas. The proposed Water Flow impact fee service area is shown in Figure 2-7.

Figure 2-6: Existing Water Delivery - Flow Impact Fee Service Area

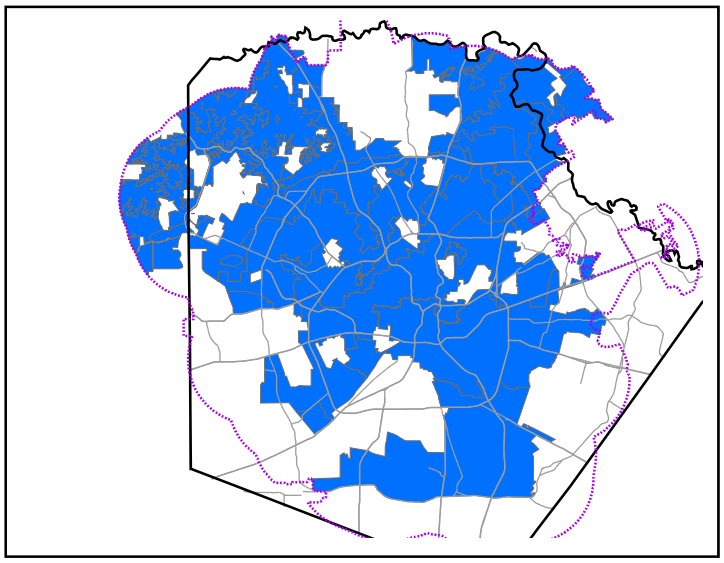
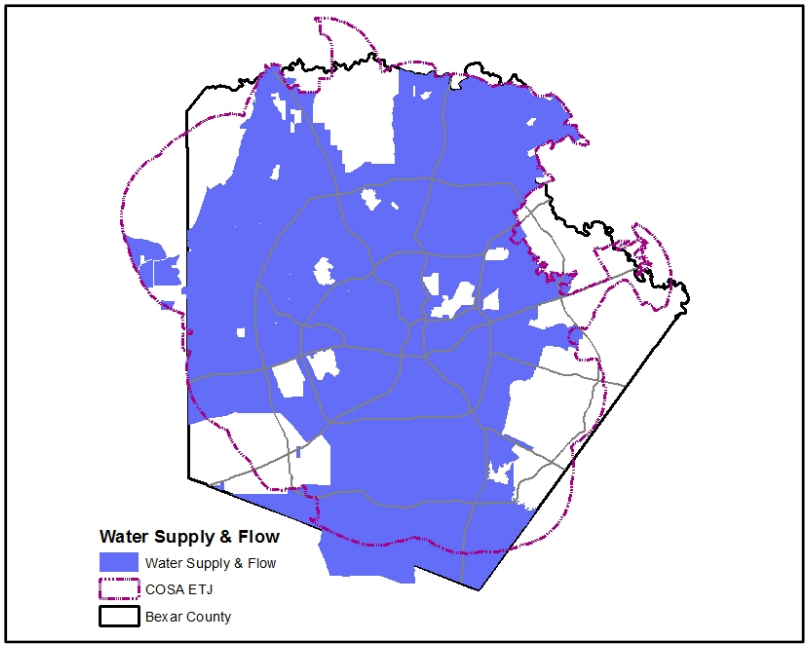


Figure 2-7: Proposed Water Delivery - Flow Impact Fee Service Area



2.4.1.3. Water Delivery – System Development

System Development facilities are the infrastructure associated with pumping and transmitting water to the distribution system. The proposed service area now includes the former Bexar Met service area and recent changes to CCN boundaries as well as pending application areas.

Figure 2-8: Existing Water Delivery - System Development Impact Fee Service Areas

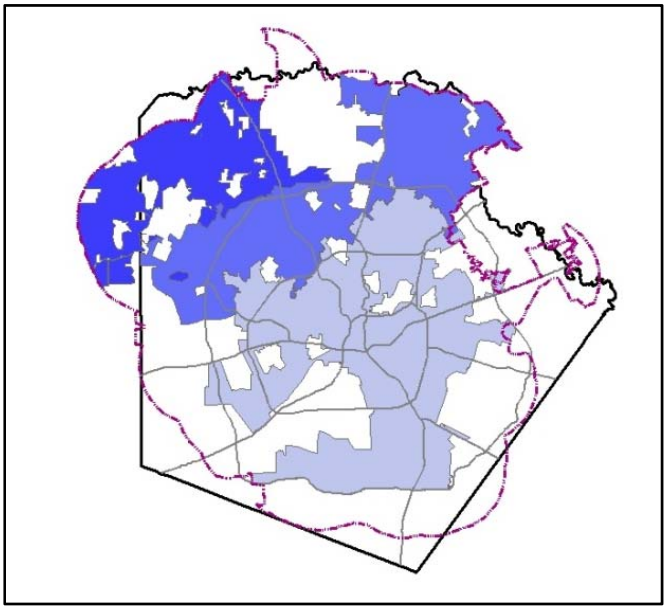
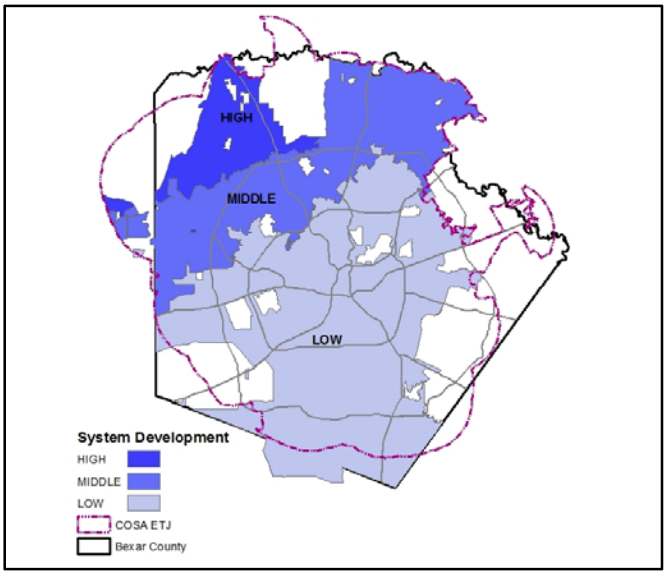


Figure 2-9: Proposed Water Delivery - System Development Impact Fee Service Areas



2.4.2. Wastewater Service Areas

The changes from the current wastewater impact fee maps to the proposed impact fee maps are in the northwest and southeast portions of the wastewater service area. The changes in the northwest were due to reduced CCN application areas. One application was reduced from 62,000 acres to 24,000 acres and another reduced from 50,000 acres to 9,000 acres. The southeast area was reduced due to an application area being amended from 30,000 acres to 22,000 acres.

2.4.2.1. Wastewater Treatment

The existing Wastewater Treatment service areas are shown in Figure 2-10, and the proposed service areas are shown in Figure 2-11. The changes are due to the changes in CCNs described above.

Figure 2-10: Existing Wastewater Treatment Impact Fee Service Areas

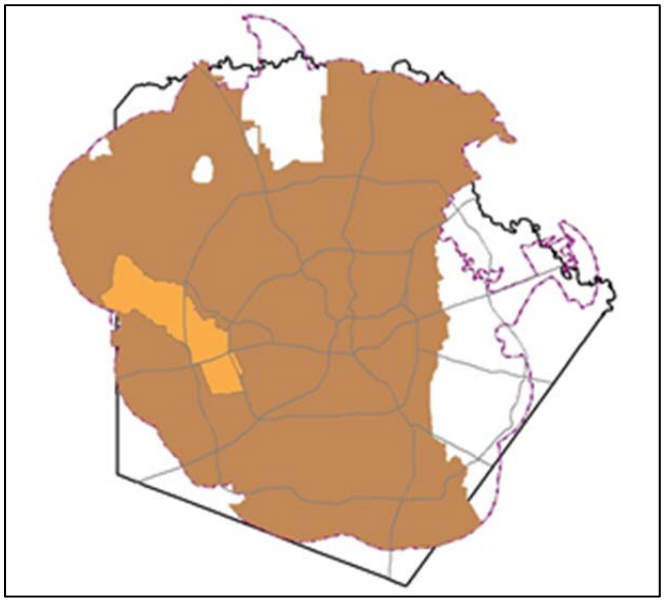
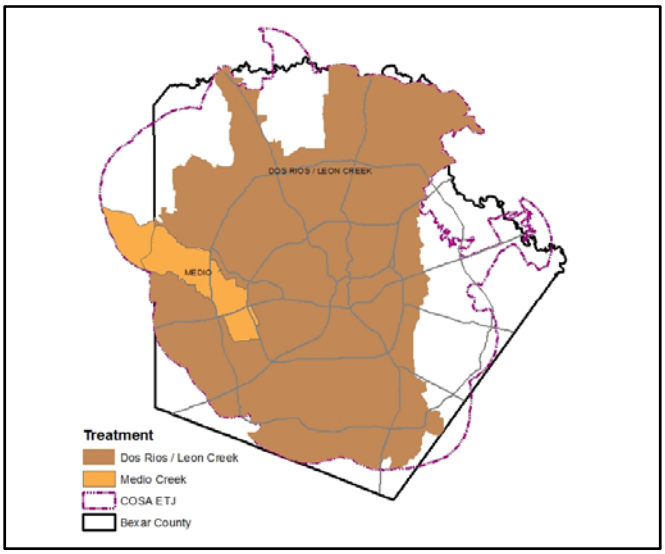


Figure 2-11: Proposed Wastewater Treatment Impact Fee Service Areas



2.4.2.2. Wastewater Collection

The Wastewater Collection impact fee service areas reflect the boundaries of the watersheds served by the WRCs but also designate areas that have higher costs mainly due to distance to the WRC. The existing impact fee service areas are shown in Figure 2-12. The proposed Collection impact fee service areas, shown in Figure 2-13, include the proposed Upper and Lower Medina service areas, which are related to the Southwest Bexar Sewer Pipeline (SBSP, formerly Medina River Sewer Outfall or MRSO). The Upper Medina service area includes land currently served by Medio Creek WRC.

Figure 2-12: Existing Wastewater Collection Impact Fee Service Areas

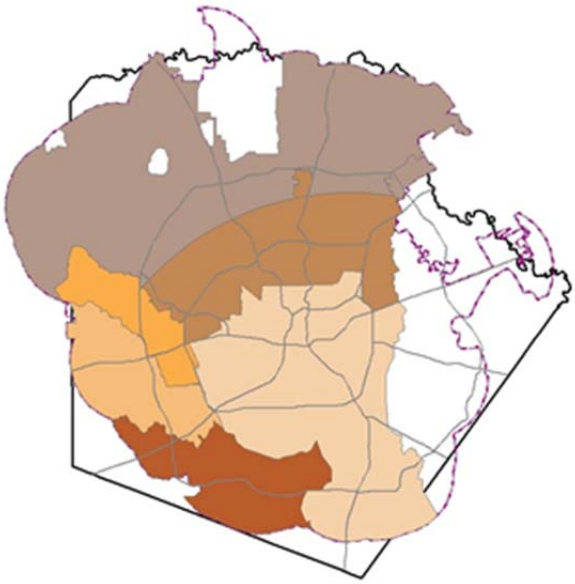
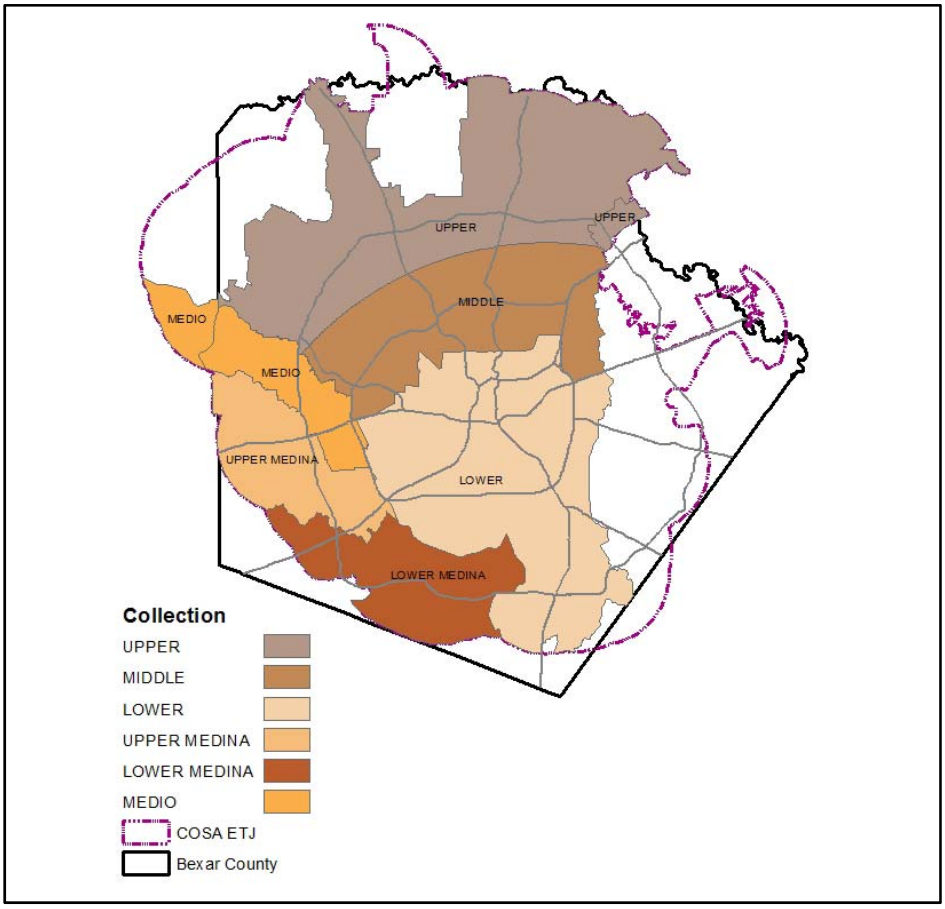


Figure 2-13: Proposed Wastewater Collection Impact Fee Service Areas



The population and EDU projections for the water and wastewater impact fee service areas are summarized in Table 2-4.

Table 2-4: Water and Wastewater Service Areas Population and EDU Projections

		-----Population-----		----------EDUs----------		
	Service Area	**2014**	**2023**	**2014**	**2023**	**Change**
Water Supply	**All**	**1,674,505**	**1,904,466**	**697,710**	**793,528**	**95,817**
Flow	**All**	**1,674,505**	**1,904,466**	**697,710**	**793,528**	**95,817**
System Development	High Elevation	44,747	65,826	18,645	27,428	8,783
	Middle Elevation	538,582	647,218	224,409	269,674	45,265
	Low Elevation	1,091,176	1,191,422	454,657	496,426	41,769
System Development	**Total System Development**	**1,674,505**	**1,904,466**	**697,710**	**793,528**	**95,817**
Treatment	Medio Creek	92,266	113,389	38,605	47,443	8,838
	Leon Creek / Dos Rios	1,474,671	1,682,008	617,018	703,769	86,751
Treatment	**Total Treatment**	**1,566,937**	**1,795,397**	**655,623**	**751,212**	**95,589**
Collection	Medio Creek	92,266	113,389	38,605	47,443	8,838
	Upper Medina	44,124	88,922	18,462	37,206	18,744
	Lower Medina	19,786	28,777	8,279	12,041	3,762
	Upper Collection	353,873	439,169	148,064	183,753	35,689
	Middle Collection	546,490	575,286	228,657	240,705	12,048
	Lower Collection	510,398	549,854	213,556	230,064	16,508
Collection	**Total Collection**	**1,566,937**	**1,795,397**	**655,623**	**751,212**	**95,589**

3. Capital Improvements Plans

3.1. Introduction

In accordance with Chapter 395 of the TLGC, SAWS has commissioned Red Oak Consulting (Red Oak), to conduct a Capital Improvement Plan and Maximum Impact Fees Study. This section establishes the engineering basis for the capital projects included in the water and wastewater impact fee calculations, updating the previous study completed in 2011.

Impact fees provide SAWS with a mechanism for funding or recouping the cost associated with capital improvements or facility expansions of the municipal water and wastewater systems necessitated by and attributable to the new development, as necessary to accommodate growth in the identified service areas from 2014 through 2023 (the study period). SAWS owns and operates an infrastructure-intensive system comprised of water production facilities, pumping stations, storage facilities, water transmission and distribution pipelines, wastewater treatment facilities, lift stations and wastewater collection mains that are continuously improved and expanded. The schedule for future investment in the water and wastewater systems is known as the CIP. The CIP was updated by SAWS staff as part of this study. The eligible CIP includes capital project descriptions and cost estimates as developed by combined efforts of SAWS staff, other consultants, and Red Oak.

This report includes a description of the basis for establishing which SAWS water and wastewater facilities are eligible to be included in the impact fee analysis. First, the criteria for measuring infrastructure capacity are explained for each infrastructure type. Then, the facilities required to accommodate growth during the 10-year study period, as defined in the LUAP, are identified. Finally, the impact fee per service unit is calculated using the value of the eligible capital facilities and the projected increase in service units from the LUAP, as prepared by SAWS and reviewed by the Capital Improvements Advisory Committee (CIAC). The final maximum impact fee per service unit is then calculated by subtracting statutory credits for the estimated capital costs to be included in future rates that will be charged to the new service units.

3.2. Capacity Criteria

3.2.1. General

This section of the report discusses the capacity of those facilities that are eligible for inclusion in the calculation of the impact fees. The only capacities that are considered for

inclusion are existing available capacities and the increases in capacities to serve growth projected to occur during the study period.

Sections 3.2.2 through 3.2.4 describe those growth-related capacities for the water supply facilities, well pumps, high service and booster pump stations, elevated and ground storage tanks, and transmission and distribution mains that were considered for inclusion in the calculation of the water impact fees; these facilities are collectively referred to as the "water system" throughout this report. Sections 3.2.5 through 3.2.6 describe those growth-related capacities for the wastewater treatment and collection facilities (collectively referred to as the "wastewater system" in this report) that were considered for inclusion in the calculation of the wastewater impact fees.

The water system design average day demand (ADD) is 127 gallons per capita per day (gpcd), which is based on actual water production data for the 12 months ending June 2010. This period included both wet and dry weather conditions and, as such, represents a typical year. The water system maximum day peaking factor (MDPF) is 2.03. This is calculated by dividing the maximum day pumpage value by the design average day demand value. The water system maximum hour peaking factor (MHPF) is 2.81 and is calculated by dividing the maximum hour pumpage value by the design average day demand value.

The wastewater system design average daily flow (ADF) is 240 gallons per EDU. The design peak wet weather flow (PWWF) is 1,220 gpd per EDU. However, this number includes inflow and infiltration. The design peak customer demand is 675 gpd per EDU. These design requirements are used to determine the requirements for wastewater treatment and collection capacities.

3.2.2. Water Supply[3]

The water supply impact fee service area includes all the area currently receiving water service from SAWS as well as all the areas that could potentially receive water service from SAWS within the next 10 years. The water supply impact fee includes capital costs for water supply projects anticipated to be constructed within the study period.

SAWS currently receives its water supply from the Edwards Aquifer, Trinity Aquifer, Local Carrizo Aquifer, Guadalupe – Blanco River Authority (GBRA), Medina System Surface Water and Canyon Regional Water Authority (CRWA). Other major projects that affect the availability of those water supplies include the Aquifer Storage and Recovery Project, the recycle program and the water conservation program.

[3] SAWS staff developed the Water Supply capacity criteria and CIP.

SAWS determined the total amount of Edwards Aquifer water available as the average during a repeat of a 10-year Drought of Record, or similar conditions. This total amount was calculated to be 215,477 AF (or 614,109 EDUs) for its existing Edwards Aquifer supply, and 7,106 AF (or 20,253 EDUs) for its future Edwards Aquifer supply. Of this total 222,583 AF (or 634,362 EDUs), 210,157 AF (or 598,948 EDUs) was used for existing customers, while 8,642 AF (or 24,629 EDUs) was used for customers 2014-2023. The remaining 3,784 AF (or 10,786 EDUs) was used for customers beyond the year 2023.

The 2014 to 2023 projects used in the calculation are the Average New Edwards Aquifer, Regional Carrizo/SSLGC, Brackish Groundwater Desalination Phases 1 and 2, Expanded Carrizo Phases 1 and 2, and the portion of the integration line needed for the local Carrizo and Brackish Desalination projects over the next ten years. The Regional Water Project is not included in the 2014 to 2023 impact fees.

Water supply projects are typically measured in acre-feet per year. To convert acre-feet per year to EDUs, the following calculation was performed.

1 acre-foot = 325,851 gallons

(325,851 gallons / ac-ft) / (313 gpd / EDU) / 365 days = 2.85 EDUs per acre foot

The majority of the SAWS water supply comes from the Edwards Aquifer. SAWS has been granted a groundwater withdrawal permit from the Edwards Aquifer Authority (EAA) that specifies the amount of groundwater that can be pumped from the aquifer. The permitted amount that is available each year can vary depending on the level of the aquifer and upon criteria established by the EAA. The EAA aquifer management criteria require the amount of groundwater pumping to be reduced as the level of the aquifer drops.

To manage the use of the various water supplies, SAWS has developed a water supply availability scenario based on the drought of record from the 1950s. For impact fee calculation purposes, the scenario assumes that a drought equal to the drought of record begins in 2014 and continues through 2023. The scenario assumes the projected Edwards Aquifer levels are the same as those that actually occurred during the drought of record period. The scenario reduces the amount of SAWS permitted Edwards Aquifer water available using the actual drought of record aquifer levels and also using the current EAA critical period reductions. Table 3-1 shows the amount of water, in acre-feet per year, that would be available from each water supply source during a drought of record.

Table 3-1: Projected Water Supply Yields During Drought of Record

	Annual Water Supply Yield (ac-ft)							
Year	Edwards	Local Carrizo	Trinity	GBRA	CRWA	Medina Plant	Existing Edwards	New Edwards
2014	261,249	7,400	8,800	7,017	6,300	13,000	257,333	3,916
2015	216,872	7,400	8,800	5,410	6,300	13,000	212,032	4,840
2016	203,427	7,400	8,800	10,726	6,300	1,500	197,419	6,008
2017	205,822	7,400	8,800	11,151	6,300	-	198,279	7,543
2018	194,014	7,400	8,800	10,778	6,300	-	186,904	7,110
2019	185,418	7,400	2,000	10,399	6,800	-	178,623	6,795
2020	172,926	7,400	2,000	10,136	6,800	-	166,589	6,337
2021	196,333	7,400	2,000	9,920	6,800	-	189,138	7,195
2022	284,343	7,400	8,800	9,667	6,800	13,000	273,923	10,420
2023	305,430	7,400	8,800	9,500	6,800	13,000	294,530	10,900
Average	**222,583**	**7,400**	**6,760**	**9,470**	**6,550**	**5,350**	**215,477**	**7,106**

The worst year of the drought of record scenario occurs in year seven of the 10 year plan. The average amount of existing Edwards Aquifer water available under the EAA restrictions is 215,477 acre feet. The total amount of water supply available for existing and new customers during the study period that exceeds the Edwards Aquifer amount in the worst year of the drought of record will include the 7,106 acre feet of Edwards Aquifer water, plus the other sources shown on the graph. This total amount of water supply will be the source to fulfill the Land Use Assumption projection of 95,817 new EDUs.

3.2.3. Water Delivery – Flow

The cost of Water Delivery is separated into two impact fees, Flow and System Development. The Flow impact fee includes growth-related costs for the water distribution mains (12-inch and larger); mains smaller than 12 inches are typically constructed by developers and "dedicated" or contributed to SAWS and, as such, are not included in the costs used to calculate the impact fee.

To determine the eligible capacities to include in costs used to calculate the Flow impact fee, the maximum hour demands (MHD) of the customers who will come online during the study period must be projected using the average day demand and the maximum hour peaking factor. The design average day demand for the system is 127 gpcd, and the maximum hour peaking factor is 2.81. Using these values and the population values from the LUAP, the estimated 2014 maximum hour demand is 597.6 million gallons per day (mgd):

$$MHD = ADD * MHPF * Population$$
$$2014\ MHD = 127\ gpcd * 2.81 * 1{,}674{,}505 / 1{,}000{,}000$$
$$2014\ MHD = 597.6\ mgd$$

Similarly, the estimated 2023 maximum hour demand is 679.6 mgd:

2023 MHD = 127 gpcd * 2.81 * 1,904,466 / 1,000,000
2023 MHD = 679.6 mgd

The expected increase in maximum hour demand due to growth during the study period is 82.0 mgd:

MHD Increase = 2023 MHD – 2014 MHD
MHD Increase = 679.6 mgd – 597.6 mgd = 82.0 mgd

The calculated maximum hour demands for the Flow impact fee service area are summarized in Table 3-2.

Table 3-2: Distribution Mains Capacity Criteria

Infrastructure Component	Service Area	Capacity Required (mgd) 2014	2023	Change
Distribution Mains	All	597.6	679.6	82.0

3.2.4. Water Delivery – System Development

The System Development impact fee includes growth-related costs for well pumps, high service and booster pump stations, elevated and ground storage tanks, and transmission mains (12-inch and larger).

There are currently three service areas for the System Development impact fee – High Elevation, Middle Elevation, and Low Elevation. No changes are proposed for the three existing service areas.

To determine the eligible allocation of existing and future CIP to the System Development impact fee, the available capacities and growth-related demands must be determined for the five infrastructure types by service area.

3.2.4.1. Well Pumps

Because the well pumps are directly related to the water supply and provide water to the entire system, they are not separated by service area. All customers within the SAWS system are assumed to require the same well pump capacity.

The well pumps are designed to meet the maximum day demand (MDD). Using the system design average day demand and maximum day peaking factor and the populations from the LUAP, the estimated 2014 maximum day demand for the SAWS system is 431.7 mgd:

MDD = ADD * MDPF * Population
2014 MDD = 127 gpcd * 2.03 * 1,674,505 / 1,000,000
2014 MDD = 431.7 mgd

Similarly, the estimated 2023 maximum day demand for the system is 491.0 mgd:

2023 MDD = 127 gpcd * 2.03 * 1,904,466 / 1,000,000
2023 MDD = 491.0 mgd

The projected study period increase in maximum day demand for well pumps is 59.3 mgd for the system:

MDD Increase = 2023 MDD – 2014 MDD
MDD Increase = 491.0 mgd – 431.7 mgd = 59.3 mgd

Table 3-3 presents the calculated maximum day demands and increase.

Table 3-3: Well Pumps Capacity Criteria

Infrastructure Component	Service Area	Capacity Required (mgd) 2014	2023	Change
Well Pumps	All	431.7	491.0	59.3

3.2.4.2. High Service and Booster Pump Stations

Pumping requirements are based on design maximum hour demands and vary by pressure zone. The weighted average ADDs and MHPFs are calculated for each service area to determine the maximum hour demands for the three service areas.

HIGH ELEVATION SERVICE AREA

The High Elevation service area has significantly higher demands than the other two service areas. Its design average day demand is 166 gpcd, and its maximum day and maximum hour peaking factors are 2.76 and 3.38, respectively. Using this data and the study period populations from the LUAP, the estimated 2014 maximum hour demand for the High Elevation service area is 25.1 mgd:

2014 MHD = 166 gpcd * 3.38 * 44,747 / 1,000,000
2014 MHD = 25.1 mgd

The estimated 2023 maximum hour demand for the High Elevation service area is 36.9 mgd:

2023 MHD = 166 gpcd * 3.38 * 65,826 / 1,000,000
2023 MHD = 36.9 mgd

The expected increase in maximum hour demand due to growth during the study period in the High Elevation service area is 11.8 mgd:

MHD Increase = 36.9 mgd – 25.1 mgd = 11.8 mgd

MIDDLE ELEVATION SERVICE AREA

The Middle Elevation service area's design average day demand and peaking factors are lower than the High Elevation service area and higher than the Low Elevation service area. The design average day demand is 133 gpcd, and the maximum day and maximum hour peaking factors are 2.03 and 2.89, respectively. The estimated 2014 maximum hour demand for the Middle Elevation service area is 207.0 mgd:

2014 MHD = 133 gpcd * 2.89 * 538,582 / 1,000,000
2014 MHD = 207.0 mgd

The estimated 2023 maximum hour demand for the Middle Elevation service area is 248.8 mgd:

2023 MHD = 133 gpcd * 2.89 * 647,218 / 1,000,000
2023 MHD = 248.8 mgd

The expected increase in maximum hour demand due to growth during the study period in the Middle Elevation service area is 41.8 mgd:

MHD Increase = 248.8 mgd – 207.0 mgd = 41.8 mgd

LOW ELEVATION SERVICE AREA

The Low Elevation service area has the lowest design average day demand and peaking factors. Its design average day demand is 122 gpcd, and its maximum day and maximum hour peaking factors are 1.98 and 2.73, respectively. The estimated 2014 maximum hour demand for the Low Elevation service area is 363.4 mgd:

2014 MHD = 122 gpcd * 2.73 * 1,091,176 / 1,000,000
2014 MHD = 363.4 mgd

The estimated 2023 maximum hour demand for the Low Elevation service area is 396.8 mgd:

2023 MHD = 122 gpcd *2.73 * 1,191,422 / 1,000,000
2023 MHD = 396.8 mgd

The expected increase in maximum hour demand due to growth during the study period in the Low Elevation service area is 33.4 mgd:

MHD Increase = 396.8 mgd – 363.4 mgd = 33.4 mgd

The projected study period increase in pumping requirements is 87.0 mgd for the three System Development service areas, as summarized in Table 3-4.

Table 3-4: Booster Pumps Capacity Criteria

Infrastructure Component	Service Area	Capacity Required (mgd) 2014	2023	Change
Booster PS	High	25.1	36.9	11.8
	Middle	207.0	248.8	41.8
	Low	363.4	396.8	33.4
	Total	**595.5**	**682.5**	**87.0**

3.2.4.3. Elevated Storage Tanks

Elevated storage tank (EST) requirements are based on design criteria and Texas Commission on Environmental Quality (TCEQ) requirements. Minimum design elevated storage capacity is greater than or equal to 100 gallons per connection. Design criteria provided in the Water Master Plan[4] vary by pressure zone. The weighted average elevated storage capacity requirements are calculated for each System Development service area and used as the impact fee capacity criteria if they exceed the minimum TCEQ requirement of 100 gallons per connection; if they do not exceed the TCEQ requirement, 100 gallons per connection is used.

HIGH ELEVATION SERVICE AREA

The 2014 and 2023 elevated storage demands for the three service areas are interpolated using the 2008 and 2017 weighted average elevated storage demands. For the High Elevation service area, the interpolated 2014 and 2023 demands for elevated storage capacity are 303 gallons and 238 gallons per connection, respectively. Since these demands exceed the minimum TCEQ requirement of 100 gallons per connection, they are used to estimate the 2014 capacity requirement for the High Elevation service area at 2.7 million gallons (MG):

2014 EST Capacity Requirement = Minimum capacity per connection * connections
2014 EST Capacity Requirement = 303 gallons/connection * 11,369 connections / 1,000,000
2014 EST Capacity Requirement = 2.7 MG

The estimated 2023 capacity requirement for the High Elevation service area is 4.0 MG:

2023 EST Capacity Requirement = 238 gallons/connection * 16,724 connections / 1,000,000
2023 EST Capacity Requirement = 4.0 MG

The expected increase in the elevated storage capacity requirement due to growth during the study period in the High Elevation service area is 1.3 MG:

EST Capacity Requirement Increase = 2023 Requirement – 2014 Requirement

[4] 2010 Black & Veatch Water Master Plan

EST Capacity Requirement Increase = 4.0 MG – 2.7 MG = 1.3 MG

MIDDLE ELEVATION SERVICE AREA

The interpolated 2014 and 2023 demands for elevated storage capacity in the Middle Elevation service area are 126 gallons and 133 gallons per connection, respectively. Since these demands exceed the minimum TCEQ requirement of 100 gallons per connection, this data is used to estimate the 2014 capacity requirement for the Middle Elevation service area at 18.2 MG:

2014 EST Capacity Requirement = 126 gallons/connection * 136,835 connections / 1,000,000
2014 EST Capacity Requirement = 18.2 MG

The estimated 2023 capacity requirement for the Middle Elevation service area is 21.9 MG:

2023 EST Capacity Requirement = 133 gallons/connection * 164,435 connections / 1,000,000
2023 EST Capacity Requirement = 21.9 MG

The expected increase in the elevated storage capacity requirements due to growth during the study period in the Middle Elevation service area is 3.7 MG:

EST Capacity Requirement Increase = 21.9 MG – 18.2 MG = 3.7 MG

LOW ELEVATION SERVICE AREA

The interpolated 2014 and 2023 demands for elevated storage capacity in the Low Elevation service area are 103 gallons per connection. Since these demands exceed the minimum TCEQ requirement of 100 gallons per connection, this data is used to estimate the 2014 capacity requirement for the Low Elevation service area at 28.6 MG:

2014 EST Capacity Requirement = 103 gallons/connection * 277,230 connections / 1,000,000
2014 EST Capacity Requirement = 28.6 MG

The estimated 2023 capacity requirement for the Low Elevation service area is 31.2 MG:

2023 EST Capacity Requirement = 103 gallons/connection * 302,699 connections / 1,000,000
2023 EST Capacity Requirement = 31.2 MG

The expected increase in the elevated storage capacity requirement due to growth during the study period in the Low Elevation service area is 2.6 MG:

EST Capacity Requirement Increase = 31.2 MG – 28.6 MG = 2.6 MG

Table 3-5 summarizes the changes in elevated storage demands for the three service area elevations.

Table 3-5: Elevated Storage Capacity Criteria

Infrastructure Component	Service Area	Capacity Required (MG) 2014	2023	Change
Elevated Storage	High	2.7	4.0	1.3
	Middle	18.2	21.9	3.7
	Low	28.6	31.2	2.6
	Total	**49.5**	**57.1**	**7.6**

3.2.4.4. Ground Storage Tanks

Ground storage tank (GST) requirements are based on design criteria and TCEQ requirements. Minimum design total storage capacity (elevated and ground) is greater than or equal to 100 gallons per connection. Design criteria provided in the Water Master Plan vary by pressure zone. The weighted average ground storage capacity requirements are calculated for each System Development service area and used as the impact fee capacity criteria if they exceed the difference between the minimum TCEQ total storage requirement of 100 gallons per connection and the minimum elevated storage requirement; if they do not exceed the TCEQ minimum, the difference between the TCEQ minimum of 100 gallons per connection and the weighted average ground storage capacity requirements from the Water Master Plan is used.

HIGH ELEVATION SERVICE AREA

The 2014 and 2023 ground storage demands for the three service areas are interpolated using the 2008 and 2017 weighted average ground storage demands. For the High Elevation service area, the interpolated 2014 and 2023 demands for ground storage capacity are 20 gallons and 14 gallons per connection, respectively. In the High Elevation service area, the minimum TCEQ requirement of 100 gallons of total storage per connection is met by the elevated storage demand. Therefore, the interpolated ground storage demands are used to estimate the 2014 capacity requirement for the High Elevation service area at 0.16 MG:

2014 GST Capacity Requirement = Minimum capacity per connection * connections
2014 GST Capacity Requirement = 20 gallons/connection * 11,369 connections / 1,000,000
2014 GST Capacity Requirement = 0.16 MG

The estimated 2023 capacity requirement for the High Elevation service area is 0.23 MG:

2023 GST Capacity Requirement = 14 gallons/connection * 16,724 connections / 1,000,000
2023 GST Capacity Requirement = 0.23 MG

The expected increase in the ground storage capacity requirement due to growth during the study period in the High Elevation service area is 0.07 MG:

GST Capacity Requirement Increase = 2023 Requirement – 2014 Requirement
GST Capacity Requirement Increase = 0.23 MG – 0.16 MG = 0.07 MG

MIDDLE ELEVATION SERVICE AREA

The interpolated 2014 and 2023 demands for ground storage capacity in the Middle Elevation service area are 0.5 gallons and 0.9 gallons per connection, respectively. However, in the Middle Elevation service area, 74 gallons and 67 gallons of ground storage capacity per connection are needed in 2014 and 2023, respectively, to meet the minimum TCEQ requirement of 100 gallons of total storage per connection. Therefore, the TCEQ minimum storage requirement is used to estimate the 2014 capacity requirement for the Middle Elevation service area at 9.2 MG:

2014 GST Capacity Requirement = 74 gallons/connection * 136,835 connections / 1,000,000
2014 GST Capacity Requirement = 9.2 MG

The estimated 2023 capacity requirement for the Middle Elevation service area is 11.0 million gallons:

2023 GST Capacity Requirement = 67 gallons/connection * 164,435 connections / 1,000,000
2023 GST Capacity Requirement = 11.0 MG

The expected increase in the ground storage capacity requirement due to growth during the study period in the Middle Elevation service area is 1.8 MG:

GST Capacity Requirement Increase = 11.0 MG – 9.2 MG = 1.8 MG

LOW ELEVATION SERVICE AREA

The Water Master Plan shows no demand for ground storage capacity in the Low Elevation service area. However, because the elevated storage capacity demand is less than 100 gallons per connection, 97 gallons of ground storage capacity per connection is needed in the Low Elevation service area to meet the minimum TCEQ requirement of 100 gallons of total storage per connection. Therefore, the TCEQ minimum storage requirement is used to estimate the 2014 capacity requirement for the Low Elevation service area at 26.9 MG:

2014 GST Capacity Requirement = 97 gallons/connection * 277,230 connections / 1,000,000
2014 GST Capacity Requirement = 26.9 MG

The estimated 2023 capacity requirement for the Low Elevation service area is 29.4 MG:

2023 GST Capacity Requirement = 97 gallons/connection * 302,699 connections / 1,000,000
2023 GST Capacity Requirement = 29.4 MG

The expected increase in the ground storage capacity requirement due to growth during the study period in the Low Elevation service area is 2.5 MG:

GST Capacity Requirement Increase = 29.4 MG – 26.9 MG = 2.5 MG

Table 3-6 summarizes the changes in ground storage demand for the three service area elevations.

Table 3-6: Ground Storage Capacity Criteria

Infrastructure Component	Service Area	Capacity Required (MG) 2014	2023	Change
Ground Storage	High	0.1	0.2	0.1
	Middle	9.2	11.0	1.8
	Low	26.9	29.4	2.5
	Total	**36.2**	**40.6**	**4.4**

3.2.4.5. Transmission Mains

The projected maximum hour demand is used to design transmission mains. Because the service areas are the same, the capacity criteria for transmission mains are the same as for the high service and booster pump stations. Table 3-7 summarizes the change in demand for the transmission mains during the study period.

Table 3-7: Transmission Mains Capacity Criteria

Infrastructure Component	Service Area	Capacity Required (mgd) 2014	2023	Change
Transmission Mains	High	25.1	36.9	11.8
	Middle	207.0	248.8	41.8
	Low	363.4	396.8	33.4
	Total	**595.5**	**682.5**	**87.0**

3.2.5. Wastewater Treatment

To determine the eligible capacities to include in the Wastewater Treatment impact fee calculation, the system design average daily flow was used to estimate the 2014 and 2023 demands. Two service areas are proposed for wastewater treatment – Medio Creek and Leon Creek / Dos Rios.

3.2.5.1. Medio Creek Service Area

Using the system design average daily flow, the estimated average daily wastewater flow for the Medio Creek service area is 8.3 mgd in 2014 and 10.2 mgd in 2023:

ADF = Design ADF per EDU * No. of EDUs / 1,000,000
2014 ADF = 215 gallons/EDU * 38,615 EDUs / 1,000,000 = 8.3 mgd
2023 ADF = 215 gallons/EDU * 47,443 EDUs / 1,000,000 = 10.2 mgd

The estimated change in average daily flow in the Medio Creek service area for the study period is 4.2 mgd:

ADF Increase = 2023 ADF – 2014 ADF
ADF Increase = 10.2 mgd – 8.3 mgd = 1.9 mgd

3.2.5.2. Leon Creek / Dos Rios Service Area

Using the same methodology as for the Medio Creek service area, the estimated average daily wastewater flows for the Leon Creek / Dos Rios service area are 132.7 mgd in 2014 and 151.4 mgd in 2023:

2014 ADF = 215 gallons/EDU * 617,018 EDUs / 1,000,000 = 132.7 mgd
2023 ADF = 215 gallons/EDU * 703,769 EDUs / 1,000,000 = 151.4 mgd

The estimated change in average daily flow in the Leon Creek / Dos Rios service area for the study period is 18.7 mgd:

ADF Increase = 151.4 mgd – 132.7 mgd = 18.7 mgd

Table 3-8 summarizes the increase in average daily wastewater flows for the study period.

Table 3-8: Treatment Average Daily Flows

Infrastructure Component	Service Area	Capacity Required (mgd) 2014	2023	Change
WRCs	Medio Creek	8.3	10.2	1.9
	Leon Creek / Dos Rios	132.7	151.4	18.7
	Total	**141.0**	**161.6**	**20.6**

3.2.6. Wastewater Collection

In order to determine the excess capacity in the existing wastewater infrastructure, SAWS Wastewater Master Planning (WWMP) department utilized the existing hydraulic models and the GIS sewer network. The existing models are based on a 2017 population demand which is conservative in favor of the development community, but is the closest calibrated model available for use. The design storm event scenario from the 2017 hydraulic model runs were exported and data included the modeled main network, diameter, slope, length, manning's pipe capacity, 2017 pipe max flow and pipe use. Since not all sewer mains are in the model, the GIS sewer network was also utilized. From this data set, the diameter, slope, length and pipe use were exported.

The overall concept of the procedure is to compare the individual sewer mains total calculated capacity versus the existing peak weather flow from the model. The ratio of those two numbers is the percentage of the pipe currently being utilized and therefore, one minus that percentage is the portion of the pipe not being utilized or currently in

excess for future use. In order to compare each pipe segment on a standard unit basis, this percentage is multiplied by the diameter and by the length so the value of the excess capacity can be determined. An example of this is shown in Table 3-9 and the calculations below it.

Table 3-9: Pipe Comparison on a Standard Unit Basis

Pipe ID	Diameter (in)	Length (LF)	Slope (%)	Capacity (mgd)	Existing Max Flow (mgd)
154564018.1	21	310.5	0.322	5.81	2.83

Utilized % = Existing Max Flow / Capacity
Utilized % = 2.83 mgd / 5.81 mgd = 48.7%

Excess % = 1 – Utilized %
Excess % = 1 – 48.7% = 51.3%

Full Pipe Capacity = Diameter * Length
Full Pipe Capacity = 21 in * 310.5 ft = 6,520.5 in-ft

Excess Pipe Capacity = Full Pipe Capacity * Excess %
Excess Pipe Capacity = 6,520.5 in-ft * 51.3% = 3,344.4 in-ft

The total equity of the existing infrastructure 10 inches and greater as determined by the SAWS financial department is $619,499,463 (total of column C, Table 3-10). In order to distribute the total of that equity across each impact fee service area the GIS network was spatially divided according to the impact fee service areas. Each pipe 10-inch and larger was then multiplied by their length in feet and diameter in inches to determine a total inch-feet (in-ft) of mains in the GIS system. The total in-ft of main for each impact fee service area (column A, Table 3-10) was divided by the sum total of in-ft of main for all impact fee service areas (total of column A, Table 3-10) to determine the distribution of equity of the existing system to each of the impact fee service areas as shown in column C of Table 3-10.

Table 3-10: Distribution of Equity of Existing Systems by Impact Fee Area

Service Area	System Diameter Length (in-ft)	System Diameter Length %	Equity of Existing System
	A	B	C
Medio Creek	3,893,892	2.80%	$17,336,785
Upper Medina	7,780,946	5.60%	$34,643,126
Lower Medina	6,399,215	4.60%	$28,491,244
Upper Collection	19,226,483	13.80%	$85,602,121
Middle Collection	34,396,095	24.70%	$153,141,828
Lower Collection	67,444,731	48.50%	$300,284,358
Total	**139,141,362**	**100.00%**	**$619,499,463**

Upper Collection % System Diameter Length (Column B) = Upper Collection Diameter Length (Column B) * 100 / Total System Capacity (Column A)

Upper Collection % System Diameter Length = $19,226,483 * 100 / $139,141,362 = 13.8%

Total Upper Collection Equity (Column C) = Total System Equity (Column C) * Upper Collection % System Diameter Length (Column B)

Total Equity for Upper Collection = $619,499,463 * 13.8% = $85,602,121

To calculate the total excess capacity remaining in the existing system the information from the hydraulic model is utilized. The model is spatially divided into impact fee service areas to determine the total amount of in-ft of main which is in each impact fee service area (column E, Table 3-11). Using the calculation method illustrated in Table 3-9 for each main, the model excess diameter length remaining (column F, Table 3-11) is summed by impact fee service area. Dividing the model excess, column F, by model total, column E provides ratio of excess percentage in the mains (column G, Table 3-11).

Table 3-11: Total Excess Capacity in System by Impact Fee Area

Service Area	Equity of Existing System	Model Total Diameter Length (in-ft)	Model Excess Diameter Length (in-ft)	Model Total to Excess Remaining %	Total Excess Equity of Existing System
	D	E	F	G	H
Medio Creek	17,336,785	3,337,152	1,734,687	52.00%	$9,011,845
Upper Medina	34,643,126	7,780,946	5,564,953	71.50%	$24,776,853
Lower Medina	28,491,244	6,399,215	5,593,675	87.40%	$24,904,733
Upper Collection	85,602,122	18,155,933	6,131,325	33.80%	$28,908,148
Middle Collection	153,141,828	33,156,424	8,962,773	26.10%	$41,396,967
Lower Collection	300,284,358	63,663,847	17,359,644	27.30%	$81,880,530
Total	**619,499,463**	**132,493,517**	**45,347,056**	**34.20%**	**$210,879,077**

Upper Collection % Model Excess to Model Total (Column G) = Upper Collection Excess (Column F) * 100 / Total Upper Collection (Column E)

Upper Collection % Model Excess to Model Total = 6,131,325 * 100 / 18,155,933 = 33.8%

The total value of excess capacity in the existing system is calculated by multiplying the equity of the existing system and the excess percentage as shown in column H.

Upper Collection Excess Equity (Column H) = Total Upper Collection Equity (Column D) * Upper Collection % Model Excess to Model Total (Column G)

Upper Collection Excess Equity = $85,602,122 * 33.8% = $28,908,148

Table 3-11, column H, is the total value of the excess equity of the existing system, which is available for future use, but does not represent the total value to be consumed in the next 10 years. To complete this step, WWMP employed the existing and proposed 10-year growth numbers to determine the value for each impact fee service area. Utilizing the existing EDUs for each impact fee service area flowing through the impact fee service area as well as the corresponding percentage of excess capacity calculated in Table 3-11, column G, total future EDUs at build out for each impact fee area were calculated and are shown in Table 3-12, column M. Two example calculations of this are shown below Table 3-12.

Table 3-12: Total Excess Capacity in System by Service Area

Service Area	2014 EDUs	2023 EDUs	Change In EDUs	Excess Equity in System	Total Capacity (EDUs)	2014 - 2023 Utilization of Pipe Capacity (%)
	I	J	K	L	M	N
Medio Creek	38,605	47,443	8,838	52.0%	80,395	10.99%
Upper Medina	8,900[(1)]	27,644[(1)]	18,744	71.5%	69,333	27.03%
Lower Medina	1,000[(1)]	4,762[(1)]	3,762	87.4%	103,000	21.85%
Upper Collection	148,064	183,753	35,689	33.8%	223,562	15.96%
Middle Collection	228,657	240,705	12,048	26.1%	516,281	9.25%
Lower Collection	213,556	230,064	16,508	27.3%	811,574	7.92%
Total	**655,623**	**751,212**	**95,589**		**1,804,145**	

(1) Numbers adjusted to reflect actual customers connected to the infrastructure.

Medio Creek Total Capacity (Column M) = 2014 Medio Creek EDUs (Column I) / [1 – Medio Creek Excess % (Column L)]

Medio Creek Total Capacity = 38,605 EDUs / (1 – 52.0%) = 80,395 EDUs

Middle Collection Total Capacity (Column M) = [2014 Middle Collection EDUs (Column I) + 2014 Upper Collection EDUs (Column I)] / [1 – Middle Collection Excess % (Column L)]

Middle Collection Total Capacity = (228,657 EDUs + 148,064 EDUs) / (1 – 26.1%) = 516,281 EDUs

This calculation worked well with all the impact fee areas with the exception of the Upper Medina and Lower Medina areas. With the two areas, the minimal existing customers connected to the system unfairly distorted the calculation. Fortunately, with these two areas, they are new mains, a single feed to the treatment plant, and we have the future population which the mains were designed to capture. Therefore, for Table 3-12, column M, the Upper Medina and Lower Medina values were based on the ultimate design of the SBSP outfall.

Column N of Table 3-12 represents the percentage of the existing infrastructure which will be utilized by the new growth over the next 10 years. This was calculated by the change in EDUs (column K) flowing through the impact fee area divided by the total capacity in EDUs (column M) for the impact fee area. Two example calculations of this are shown below.

2014 - 2023 Medio Creek Utilization (Column N) = Medio Creek Change in EDUs (Column K) / Total Medio Creek Capacity (Column M)

2014 – 2023 Medio Creek Utilization = 8,838 EDUs / 80,395 EDUs = 10.99%

2014 - 2023 Middle Collection Utilization (Column N) = [Middle Collection Change in EDUs (Column K) + Upper Collection Change in EDUs (Column K)] / Total Middle Collection Capacity (Column M)

2014 – 2023 Middle Collection Utilization = (12,048 EDUs + 35,689 EDUs) / 516,281 EDUs = 9.25%

With the 2014-2023 utilization of pipe capacity (%) calculated the process to calculate the maximum impact fee for equity can be completed. Using the total equity of the existing system originally calculated in Table 3-10, column C, and shown below in Table 3-13, column Q, we can determine the 2014-2023 utilization of pipe equity, column R in Table 3-13, by multiplying the corresponding % in column P of Table 3-13.

Table 3-13: 2014-2023 Utilization of Pipe Equity

Service Area	Change In EDUs	2014 - 2023 Utilization of Pipe Capacity (%)	Total Equity of Existing System	2014 - 2023 Utilization of Pipe Equity	10-yr Eligible Equity / Change in EDUs
	O	P	Q	R	S
Medio Creek	8,838	10.99%	$17,336,785	$1,905,862	$215.64
Upper Medina	18,744	27.03%	$34,643,126	$9,365,681	$776.28
Lower Medina	3,762	21.85%	$28,491,244	$6,225,475	$276.61
Upper Collection	35,689	15.96%	$85,602,122	$13,665,383	$1,049.53
Middle Collection	12,048	9.25%	$153,141,828	$14,159,987	$666.63
Lower Collection	16,508	7.92%	$300,284,358	$23,770,796	$370.00
Total	**95,589**		**$619,499,463**	**$69,093,184**	

2014 – 2023 Medio Creek Utilized Equity (Column R) = 2014 – 2023 Medio Creek Utilization % (Column P) * Total Medio Creek Equity (Column Q)

2014 – 2023 Medio Creek Utilized Equity = 10.99% * $17,336,785 = $1,905,862

The 10-year eligible equity per change in EDUs is calculated by dividing column R by the total change in population that flows through the impact fee service area. In order to complete the calculation, the 10-year eligible equity per change in EDUs must include the impact fee amount from the other impact fee service areas which are being utilized to convey flows to the treatment plant. The two examples below of Medio Creek, which does not flow through other impact fee service areas, and Middle Collection, which collects flows from above as well as transfers flows from below demonstrates the differences in the calculations.

Medio Creek 10-Year Eligible Equity / Change in EDUs (Column S) = 2014 – 2023 Medio Creek Utilized Equity (Column R) / Medio Creek Change in EDUs (Column O)

Medio Creek 10-Year Eligible Equity / Change in EDUs = $1,905,862 / 8,838 EDUs = $216

Middle Collection 10-Year Eligible Equity / Change in EDUs (Column S) = [2014 – 2023 Middle Collection Utilized Equity (Column R) / (Middle Collection Change in EDUs (Column O) + Upper Collection Change in EDUs (Column O))] + Lower Collection 10-Year Eligible Equity (Column S)

Middle Collection 10-Year Eligible Equity / Change in EDUs = [$14,159,987 / (12,048 EDUs + 35,689 EDUs)] + $370 = $667

3.3. Eligible Facilities

3.3.1. General

This section establishes the SAWS water and wastewater facilities that are eligible for inclusion in the calculation of the impact fee. Projects included in the CIP can serve to rehabilitate and renew the system, enhance the system to improve efficiency and meet regulatory requirements, increase the system capacity, or achieve a combination of these objectives. Only those projects warranted by capacity issues derived from growth projected to occur during the study period (2014 to 2023) can be included in the impact fee calculation. Additionally, if the cost of a project cannot be sufficiently delineated or if alternate mechanisms for cost recovery are in place, the project is not included in the impact fee calculation.

Financing costs associated with existing infrastructure with available capacity to serve new development are included in the eligible impact fee CIP. It is assumed, based on discussions with SAWS staff, that 65% of the existing infrastructure was financed with debt. SAWS prefers to use cash generated from impact fee revenues to fund growth-related CIP, to the extent that impact fee collections provide that cash. Although SAWS plans to fund specific future CIP projects with debt, it reserves the option to fund all CIP with cash. Therefore, based in part on the present level of uncertainty of future funding sources, SAWS elected, for the purposes of this study, to exclude financing costs associated with the future CIP from the impact fee calculation.[5]

3.3.2. Water Supply[6]

The Water Supply impact fee includes growth-related costs for existing water supplies and for new projects to be constructed.

Table 3-14: Water Supply Eligible Capacity Calculation

Water Sources	Total Capital Cost	Acre Feet	Total EDUs	2014 - 2023 EDUs	Eligible Capital Costs
Average New Edwards	$44,121,763	7,106	20,253	9,468	20,625,058
Regional Carrizo/SSLGC Delivery	124,146,817	13,138	37,443	17,503	58,033,387
Desalination 2015 & 2021	280,535,691	24,420	69,597	32,534	131,138,573
Expanded Carrizo 2017 & 2022	29,392,069	14,000	39,900	18,652	13,739,549
Integration Pipeline	235,695,768	0	0	0	51,590,575
Total Water Supply	**$713,892,107**			**78,156**	**$275,127,142**

The information in Table 3-14 assumes that 5,320 acre feet of Edwards Aquifer supply from the drought of record scenario (DOR) and 7,106 acre feet of new Edwards Aquifer

[5] Chapter 395 allows the inclusion of financing costs in the impact fee calculation. However, SAWS staff elected to use a more conservative approach and excluded the financing costs from the calculation.
[6] SAWS staff developed the Water Supply CIP and prepared Section 3.3.2.

supply is available for future growth. The brackish groundwater desalination project and the regional and expanded Carrizo projects are anticipated to be built within the next 10 years. The integration pipeline is necessary to transport water from the desalination treatment plant to the west side of San Antonio. The size of the integration pipeline will exceed that needed for the desalination project. Only the portion of the costs associated with the capacity needed for the brackish project is included in Table 3-14.

The total capital costs for water supply projects needed to serve 95,817 EDUs is $282,391,017, which is summarized in Table 3-15.

Table 3-15: 2014 – 2023 Eligible Water Supply CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity ($ mil)	Value of Eligible Capacity ($ mil)	Eligible Financing Costs ($ mil)	Value of Capacity ($ mil)	Value of Eligible Capacity ($ mil)	Eligible Financing Costs ($ mil)	Total Value of All Capacity ($ mil)	Total Value of Eligible Capacity ($ mil)
All	$294.3	$7.3	$0.0	$713.9	$275.1	$0.0	$1,008.1	$282.4

3.3.3. Water Delivery – Flow

The Flow impact fee includes growth-related costs associated with the distribution mains that are 12 inches or more in diameter. Because the water distribution system is looped, it is difficult to pinpoint the existing and future capacities. Therefore, it is assumed, based on discussions with SAWS staff, that the capacity of the distribution mains is increased as needed to maintain 10% excess capacity.

The estimated 2014 and 2023 capacities for the Flow service area are 664.0 mgd and 755.2 mgd, respectively:

$$\text{Capacity} = \text{MHD} / 90\%$$
$$\text{2014 Capacity} = 597.6 \text{ mgd} / 90\% = 664.0 \text{ mgd}$$
$$\text{2023 Capacity} = 679.6 \text{ mgd} / 90\% = 755.2 \text{ mgd}$$

It is assumed that growth will utilize available existing capacity first and future CIP capacity if the projected demand requires additional capacity beyond what is available in the existing distribution mains. Of the estimated 664.0 mgd capacity in 2014, 597.6 mgd is needed to meet the demand of existing customers. Therefore, 66.4 mgd is available to serve new development. However, from Section 3.2.3, 82.0 mgd is required to serve growth during the study period so all of the 66.4 mgd of available existing capacity, or 10.0% of existing capacity, is required to serve growth during the 2014-2023 study period:

$$\text{Study Period Growth Allocation} = 66.4 \text{ mgd} / 664.0 \text{ mgd} = 10.0\%$$

Because the available existing capacity is insufficient to serve all of the projected growth during the study period, 15.6 mgd, or 17.1%, of the 91.2 mgd of future CIP capacity (see Table B-1 of Appendix B) is included in the impact fee calculation:

Study Period Growth Allocation = Remaining Study Period Demand / Future CIP Capacity
Study Period Growth Allocation = 15.6 mgd / 91.2 mgd = 17.1%

The costs of the eligible capacities for the Flow service area are summarized in Table 3-16.

Table 3-16: 2014 - 2023 Eligible Water Flow CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
All	$610.8	$61.1	$24.3	$210.2	$36.2	$0.0	$821.0	$121.5

3.3.4. Water Delivery – System Development

As with the capacity criteria, the allocation of existing facilities and future CIP is determined for each type of infrastructure in the System Development impact fee calculation. For each of these infrastructure types, there are multiple facilities within each service area, and each facility is likely to have some available capacity for future growth. Planned expansion projects in the CIP are often construction of a new facility within a service area even though several other facilities within that service area may have available capacity.

Because new System Development facilities are constructed and put into service even when available capacity exists at older facilities, the assumption that growth will utilize all existing available capacity before utilizing future CIP capacity is not realistic. Existing available and future CIP capacity are considered together as total available capacity during the study period, and the amount of that available capacity that would be utilized by study period growth is determined using the capacity criteria from Section 2.

3.3.4.1. Well Pumps

SAWS staff provided the capacities of the existing well pumps and the future well pumps in the CIP. The 2014 and 2023 well pump capacities for the combined system are 527.2 mgd and 579.7 mgd, respectively.

Of the 527.2 mgd of existing capacity in 2014 (see Table A-1 of Appendix A), 431.7 mgd is needed to meet the maximum day demand of existing customers. Therefore, 95.5 mgd is available to serve new development. The CIP includes 52.5 mgd of well pump capacity

(see Table B-2 of Appendix B) so the total available capacity during the study period is 148.0 mgd:

Total Available Capacity = Existing Available Capacity + Future CIP Capacity
Total Available Capacity = 95.5 mgd + 52.5 mgd = 148.0 mgd

From Section 3.2.4.1, approximately 59.3 mgd is required to serve growth during the study period. This represents 38.5% of the total available capacity:

Study Period Growth Allocation = Study Period Demand / Total Available Capacity
Study Period Growth Allocation = 59.3 mgd / 148.0 mgd = 40.0%

Table 3-17 shows the total value of available capacity and the value eligible to be included in the System Development impact fee calculation.

Table 3-17: 2014 - 2023 Eligible Well Pumps CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity ($ mil)	Value of Eligible Capacity ($ mil)	Eligible Financing Costs ($ mil)	Value of Capacity ($ mil)	Value of Eligible Capacity ($ mil)	Eligible Financing Costs ($ mil)	Total Value of All Capacity ($ mil)	Total Value of Eligible Capacity ($ mil)
All	$84.9	$6.2	$2.4	$42.4	$17.0	$0.0	$127.3	$25.6

3.3.4.2. High Service and Booster Pump Stations

SAWS staff provided the capacities of the existing and future high service and booster pump stations. The 2014 and 2023 pump station capacities for the combined system are 904.5 mgd and 988.8 mgd, respectively. The pump stations are separated into the three System Development service areas, but there are several pump stations that are shared among the service areas. Using data provided by SAWS staff and the Water Master Plan, the shared pump stations are allocated to the three service areas.

HIGH ELEVATION SERVICE AREA

The existing and planned 2023 capacities of the high service and booster pump stations located in the High Elevation service area are 66.0 mgd and 82.4 mgd, respectively (see Tables A-2 and B-3 of the appendices). Based on data from the Water Master Plan, 21.8 mgd, or 7.4%, of the 302.5 mgd existing capacity of the shared pump stations (see Table A-5 of Appendix A) serves customers in the High Elevation service area. It is assumed that the High Elevation service area will continue to require the same proportion of future shared pump stations (see Table B-6 of Appendix B). Therefore, the 2014 and 2023 high service and booster pump station capacities for the High Elevation service area are 88.3 mgd and 106.2 mgd, respectively:

Capacity = Service Area Capacity + (Shared Capacity * Shared Allocation)
2014 Capacity = 66.0 mgd + (302.5 mgd * 7.4%) = 88.3 mgd
2023 Capacity = 82.4 mgd + (322.6 mgd * 7.4%) = 106.2 mgd

Of the 88.3 mgd of existing capacity in 2014, 25.1 mgd is needed to meet the demand of existing customers. Therefore, 63.2 mgd is available to serve new development in the High Elevation service area. The CIP includes 17.9 mgd of pump station capacity so the total available capacity for future High Elevation service area customers during the study period is 81.1 mgd:

Total Available Capacity = 63.2 mgd + 17.9 mgd = 81.1 mgd

From Section 3.2.4.2, approximately 11.8 mgd is required to serve growth in the High Elevation service area during the study period. This represents 13.6% of the total available capacity:

Study Period Growth Allocation = 11.8 mgd / 81.1 mgd = 14.6%

MIDDLE ELEVATION SERVICE AREA

The existing and planned 2023 capacities of the high service and booster pump stations located in the Middle Elevation service area are 125.0 mgd and 156.0 mgd, respectively (see Table A-3 of Appendix A and Table B-4 of Appendix B). Based on data from the Water Master Plan, 241.7 mgd, or 79.9%, of the 302.5 mgd existing capacity of the shared pump stations serves customers in the Middle Elevation service area. It is assumed that the Middle Elevation service area will continue to require the same proportion of future shared pump stations. Therefore, the 2014 and 2023 high service and booster pump station capacities for the Middle Elevation service area are 366.6 mgd and 413.7 mgd, respectively:

2014 Capacity = 125.0 mgd + (302.5 mgd * 79.9%) = 366.6 mgd
2023 Capacity = 156.0 mgd + (322.6 mgd * 79.9%) = 413.7 mgd

Of the 366.6 mgd of existing capacity in 2014, 207.0 mgd is needed to meet the demand of existing customers. Therefore, 159.6 mgd is available to serve new development in the Middle Elevation service area. The CIP includes 47.1 mgd of pump station capacity so the total available capacity for future Middle Elevation service area customers during the study period is 212.8 mgd:

Total Available Capacity = 159.6 mgd + 47.1 mgd = 206.7 mgd

From Section 3.2.4.2, approximately 41.8 mgd is required to serve growth in the Middle Elevation service area during the study period. This represents 19.6% of the total available capacity:

Study Period Growth Allocation = 41.8 mgd / 206.7 mgd = 20.2%

LOW ELEVATION SERVICE AREA

The existing and planned 2023 capacities of the high service and booster pump stations located in the Low Elevation service area are 411.1 mgd and 427.8 mgd, respectively (see Tables A-4 and B-5 in the appendices). Based on data from the Water Master Plan, 38.4 mgd, or 12.7%, of the 302.5 mgd existing capacity of the shared pump stations serves customers in the Low Elevation service area. It is assumed that the Low Elevation service area will continue to require the same proportion of future shared pump stations. Therefore, the 2014 and 2023 high service and booster pump station capacities for the Low Elevation service area are 449.6 mgd and 468.9 mgd, respectively:

2014 Capacity = 411.1 mgd + (302.5 mgd * 12.7%) = 449.3 mgd
2023 Capacity = 427.8 mgd + (322.6 mgd * 12.7%) = 468.9 mgd

Of the 449.3 mgd of existing capacity in 2014, 363.4 mgd is needed to meet the demand of existing customers. Therefore, 85.9 mgd is available to serve new development in the Low Elevation service area. The CIP includes 19.6 mgd of pump station capacity so the total available capacity for future Low Elevation service area customers during the study period is 116.7 mgd:

Total Available Capacity = 85.9 mgd + 19.6 mgd = 105.5 mgd

From Section 3.2.4.2, approximately 33.4 mgd is required to serve growth in the Low Elevation service area during the study period. This represents 31.7% of the total available capacity:

Study Period Growth Allocation = 33.4 mgd / 105.5 mgd = 31.7%

The costs of the total available and impact fee eligible pump station capacities for the three System Development service areas are summarized in Table 3-18.

Table 3-18: 2014 - 2023 Eligible High Service and Booster Pump Stations CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$9.6	$1.0	$0.4	$6.8	$1.0	$0.0	$16.5	$2.4
Middle Elevation	39.9	3.5	1.4	20.0	4.0	0.0	59.9	8.9
Low Elevation	48.9	2.9	1.2	9.5	3.0	0.0	58.4	7.2
Total	**$98.4**	**$7.4**	**$3.0**	**$36.3**	**$8.0**	**$0.0**	**$134.8**	**$18.5**

3.3.4.3. Elevated Storage Tanks

SAWS staff provided the capacities of the existing and future elevated storage tanks. The 2014 and 2023 elevated storage tank capacities for the combined system are 111.1 million gallons and 131.3 million gallons, respectively.

HIGH ELEVATION SERVICE AREA

For the High Elevation service area, the 2014 and 2023 elevated storage capacities are 6.9 million gallons and 9.4 million gallons, respectively. Of the 6.9 million gallons of existing capacity in 2014 (see Table A-6 of Appendix A), 2.7 million gallons is needed to meet the demand of existing customers. Therefore, 4.2 million gallons is available to serve new development in the High Elevation service area. The CIP includes 2.5 million gallons of elevated storage capacity (see Table B-7 of Appendix B) so the total available capacity for future High Elevation service area customers during the study period is 6.7 million gallons:

$$\text{Total Available Capacity} = 4.2\ \text{MG} + 2.5\ \text{MG} = 6.7\ \text{MG}$$

From Section 3.2.4.3, approximately 1.3 million gallons is required to serve growth in the High Elevation service area during the study period. This represents 19.1% of the total available capacity:

$$\text{Study Period Growth Allocation} = 1.3\ \text{MG} / 6.7\ \text{MG} = 19.1\%$$

MIDDLE ELEVATION SERVICE AREA

For the Middle Elevation service area, the 2014 and 2023 elevated storage capacities are 43.9 million gallons and 52.7 million gallons, respectively. Of the 43.9 million gallons of existing capacity in 2014 (see Table A-7 of Appendix A), 18.2 million gallons is needed to meet the demand of existing customers. Therefore, 25.7 million gallons is available to serve new development in the Middle Elevation service area. The CIP includes 8.8 million gallons of elevated storage capacity (see Table B-8 of Appendix B) so the total available capacity for future Middle Elevation service area customers during the study period is 34.5 million gallons:

$$\text{Total Available Capacity} = 25.7\ \text{MG} + 8.8\ \text{MG} = 34.5\ \text{MG}$$

From Section 3.2.4.3, approximately 3.7 million gallons is required to serve growth in the Middle Elevation service area during the study period. This represents 10.7% of the total available capacity:

$$\text{Study Period Growth Allocation} = 3.7\ \text{MG} / 34.5\ \text{MG} = 10.7\%$$

LOW ELEVATION SERVICE AREA

For the Low Elevation service area, the 2014 and 2023 elevated storage capacities are 60.2 million gallons and 69.2 million gallons, respectively. Of the 60.2 million gallons of existing capacity in 2014 (see Table A-8 of Appendix A), 28.6 million gallons is needed to meet the demand of existing customers. Therefore, 31.6 million gallons is available to serve new development in the Low Elevation service area. The CIP includes 9.0 million gallons of elevated storage capacity (see Table B-9 of Appendix B) so the total available capacity for future Low Elevation service area growth during the study period is 40.6 million gallons:

$$\text{Total Available Capacity} = 31.6\ \text{MG} + 9.0\ \text{MG} = 40.6\ \text{MG}$$

From Section 3.2.4.3, approximately 2.6 million gallons is required to serve growth in the Low Elevation service area during the study period. This represents 6.4% of the total available capacity:

$$\text{Study Period Growth Allocation} = 2.6\ \text{MG} / 40.6\ \text{MG} = 6.4\%$$

The costs of the total available and impact fee eligible elevated storage capacities for the three System Development service areas are summarized in Table 3-19.

Table 3-19: 2014 - 2023 Eligible Elevated Storage CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$3.3	$0.4	$0.2	$6.3	$1.2	$0.0	$9.6	$1.7
Middle Elevation	20.9	1.3	0.5	24.9	2.7	0.0	45.9	4.5
Low Elevation	28.7	1.0	0.4	30.1	1.9	0.0	58.8	3.3
Total	**$52.9**	**$2.7**	**$1.1**	**$61.3**	**$5.8**	**$0.0**	**$114.3**	**$9.5**

3.3.4.4. Ground Storage Tanks

SAWS staff provided the capacities of the existing and future ground storage tanks. The 2014 and 2023 ground storage tank capacities for the combined system are 139.0 million gallons and 161.8 million gallons, respectively.

HIGH ELEVATION SERVICE AREA

For the High Elevation service area, the 2014 and 2023 ground storage capacities are 3.1 million gallons. Of the 3.1 million gallons of existing capacity in 2014 (see Table A-9 of Appendix A), 0.16 million gallons is needed to meet the demand of existing customers. Therefore, 2.9 million gallons is available to serve new development in the High Elevation service area. There are no High Elevation service area ground storage tank

projects in the CIP so the total available capacity for growth during the study period is 2.9 million gallons:

$$\text{Total Available Capacity} = 2.9 \text{ MG} + 0.00 \text{ MG} = 2.9 \text{ MG}$$

From Section 3.2.4.4, approximately 0.07 million gallons of ground storage is required to serve growth in the High Elevation service area during the study period. This represents 2.5% of the total available capacity:

$$\text{Study Period Growth Allocation} = 0.07 \text{ MG} / 2.9 \text{ MG} = 2.5\%$$

MIDDLE ELEVATION SERVICE AREA

For the Middle Elevation service area, the 2014 and 2023 ground storage capacities are 46.0 million gallons and 62.5 million gallons, respectively. Of the 46.0 million gallons of existing capacity in 2014 (see Table A-10 of Appendix A), 9.2 million gallons is needed to meet the demand of existing customers. Therefore, 36.8 million gallons is available to serve new development in the Middle Elevation service area. The CIP includes 16.5 million gallons of ground storage capacity (see Table B-10 of Appendix B) so the total available capacity for future Middle Elevation service area growth during the study period is 53.3 million gallons:

$$\text{Total Available Capacity} = 36.8 \text{ MG} + 16.5 \text{ MG} = 53.3 \text{ MG}$$

From Section 3.2.4.4, approximately 1.8 million gallons of ground storage is required to serve growth in the Middle Elevation service area during the study period. This represents 3.4% of the total available capacity:

$$\text{Study Period Growth Allocation} = 1.8 \text{ MG} / 53.3 \text{ MG} = 3.4\%$$

LOW ELEVATION SERVICE AREA

For the Low Elevation service area, the 2014 and 2023 ground storage capacities are 89.9 million gallons and 96.3 million gallons, respectively. Of the 89.9 million gallons of existing capacity in 2014 (see Table A-11 of Appendix A), 26.9 million gallons is needed to meet the demand of existing customers. Therefore, 63.0 million gallons is available to serve new development in the Low Elevation service area. The CIP includes 6.4 million gallons of ground storage capacity (see Table B-11 of Appendix B) so the total available capacity for growth during the study period is 69.4 million gallons:

$$\text{Total Available Capacity} = 63.0 \text{ MG} + 6.4 \text{ MG} = 69.4 \text{ MG}$$

From Section 3.2.4.4, approximately 2.5 million gallons of ground storage is required to serve growth in the Low Elevation service area during the study period. This represents 3.6% of the total available capacity:

Study Period Growth Allocation = 2.5 MG / 69.4 MG = 3.6%

The costs of the total available and impact fee eligible ground storage capacities for the three System Development service areas are summarized in Table 3-20.

Table 3-20: 2014 - 2023 Eligible Ground Storage CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$0.9	$0.0	$0.0	$0.0	$0.0	$0.0	$0.9	$0.0
Middle Elevation	13.2	0.4	0.1	16.1	0.6	0.0	29.4	1.0
Low Elevation	25.9	0.6	0.3	8.6	0.3	0.0	34.5	1.2
Total	**$40.0**	**$1.0**	**$0.4**	**$24.7**	**$0.9**	**$0.0**	**$64.8**	**$2.2**

3.3.4.5. Transmission Mains

Transmission mains typically carry treated water from a high service pump station or a booster pump station to the smaller distribution mains within a pressure zone or to another pressure zone. Because, like with the distribution mains, it is difficult to estimate the total or available capacity within the transmission mains, we used the demands and capacities of the high service and booster pump stations to estimate the demands and capacities of the transmission mains. Therefore, the study period growth allocations for transmission mains are the same as for the high service and booster pump stations.

The costs of the total available and impact fee eligible transmission main capacities for the three System Development service areas are summarized in Table 3-21. Transmission mains CIP projects for the three service areas are provided in Tables B-12 through B-14 of Appendix B.

Table 3-21: 2014 - 2023 Eligible Water Transmission Mains CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$5.1	$0.5	$0.2	$5.7	$0.8	$0.0	$10.9	$1.6
Middle Elevation	21.4	1.9	0.7	44.1	8.9	0.0	65.6	11.6
Low Elevation	26.3	1.6	0.6	7.5	2.4	0.0	33.8	4.6
Total	**$52.8**	**$4.0**	**$1.5**	**$57.3**	**$12.1**	**$0.0**	**$110.3**	**$17.8**

Table 3-22 summarizes the eligible Water Delivery – System Development CIP costs by service area.

Table 3-22: 2014 – 2023 Eligible Water Delivery – System Development CIP Costs

	--------Existing Capacity--------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
High Elevation	$21.2	$2.5	$1.1	$22.8	$4.6	$0.0	$44.0	$8.1
Middle Elevation	122.8	10.0	3.8	125.3	24.2	0.0	248.1	38.1
Low Elevation	185.1	8.8	3.5	74.2	15.1	0.0	259.3	27.5
Total	**$329.1**	**$21.3**	**$8.5**	**$222.3**	**$43.9**	**$0.0**	**$551.4**	**$73.7**

3.3.5. Wastewater Treatment

In order to determine the equity portion of the impact fee for Treatment, WWMP utilized the same method as the CIP calculation for treatment to determine the percentage utilized. The design capacity for the Medio Creek WRC and the combined Dos Rios / Leon WRCs are shown in Table 3-23 below (column B). None of the WRCs have plans to fully expand to a greater capacity than they currently have during the next 10 years of planning.

Table 3-23: Capacity for Medio Creek and Dos Rios / Leon Creek

Service Area	2014-23 Change in EDUs	Design Capacity (MGD)	2014-23 Utilized Capacity (MGD)	2014-23 Utilized Capacity (%)	Treatment Equity	2014-23 Eligible Treatment Equity	Eligible Equity / Change in EDUs
	A	B	C	D	E	F	G
Medio Creek	9,184	16	1.9	12%	$62,212,053	$7,391,842	$804.83
Dos Rios/ Leon Creek	90,147	171	18.7	11%	$317,556,894	$34,653,480	$384.41
Total	**99,331**	**187**	**20.6**		**$379,768,947**	**$42,045,321**	

The total equity of the existing treatment infrastructure was determined by the SAWS financial department, and is indicated in column E of Table 3-22. Column C indicates the total capacity in mgd which will be utilized by the growth or change in EDUs over the ten year time period. The corresponding percentages of total capacity utilized during the 10-year time period of the WRCs are indicated in column D. The following calculations demonstrate how to calculate the eligible treatment equity and the 10-year eligible equity per change in EDUs.

2014 – 2023 Medio Creek Eligible Treatment Equity (Column F) = Total Medio Creek Treatment Equity (Column E) * 2014 – 2023 Medio Creek Utilization % (Column D)

2014 – 2023 Medio Creek Eligible Treatment Equity = $62,212,053 * 12% = $7,391,842

Medio Creek 10-Year Eligible Equity / Change in EDUs (Column G) = 2014 – 2023 Medio Creek Eligible Treatment Equity (Column F) / 2014 – 2023 Medio Creek Change in EDUs (Column A)

Medio Creek 10-Year Eligible Equity / Change in EDUs = $7,391,842 / 9,184 EDUs = $805

3.3.5.1. Medio Creek Service Area

The existing wastewater treatment capacity at the Medio Creek WRC is 16 mgd. Because the projected 2023 average daily flow is 10.2 mgd (from Section 3.2.5.1), no additional capacity will be required for the Medio Creek service area during the study period. However, a nutrient removal project is currently planned that will improve the existing capacity at Medio Creek WRC. Because this project will increase the value of the available existing capacity, the portion that is associated with the existing capacity that is currently unused is eligible for inclusion in the impact fee calculation. This project is listed in Table B-15 of Appendix B. Therefore, the Wastewater Treatment impact fee calculation will include the increased value of existing available capacity that will be required to serve new development during the study period:

Study period growth allocation = Study period demand / Total existing capacity

Study period growth allocation = 1.9 mgd / 16.0 mgd = 11.9%

3.3.5.2. Leon Creek / Dos Rios Service Area

The existing wastewater treatment capacity is 46 mgd at Leon Creek WRC and 125 mgd at Dos Rios WRC. There are CIP projects planned that will improve the existing capacity at Dos Rios WRC and enable transfer of wastewater between WRCs. Because these projects will increase the value of the available existing capacity, the portion that is associated with the existing capacity that is currently unused is eligible for inclusion in the impact fee calculation. The CIP projects are listed in Table B-15 of Appendix B.

It is assumed that growth will utilize available existing capacity first and future CIP capacity if the projected demand requires additional capacity beyond what is currently available at the WRCs. Of the estimated 171 mgd combined capacity at Leon Creek and Dos Rios WRCs in 2014, 132.7 mgd is needed to serve existing customers. Therefore, 38.3 mgd is available to serve new development. From Section 3.2.5.2, the projected 2023 average daily flow is 151.4 mgd, requiring 18.7 mgd of available capacity. This represents 10.9% of the existing capacity:

Study Period Growth Allocation = 18.7 mgd / 171.0 mgd = 10.9%

Table B-14 provides the growth allocations by phase for the CIP projects. The costs of the eligible facilities for the two Wastewater Treatment service areas are summarized in Table 3-24.

Table 3-24: 2014 - 2023 Eligible Wastewater Treatment CIP Costs

	--------Existing Capacity--------			--------New CIP Capacity--------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
Medio Creek	$62.2	$7.4	$3.0	$25.5 (1)	$3.0	$0.0	$87.7	$13.4
Leon Creek / Dos Rios	317.6	34.7	13.9	215.0 (2)	24.8	0.0	532.6	73.3
Total	**$379.8**	**$42.1**	**$16.9**	**$240.5**	**$27.8**	**$0.0**	**$620.3**	**$86.7**

(1) These CIP projects do not add capacity, but increase the value of existing available capacity. They are listed in Appendix B, Table B-14.

(2) Some of these CIP projects do not add capacity, but increase the value of existing available capacity. They are listed in Appendix B, Table B-14.

3.3.6. Wastewater Collection

The Wastewater Collection impact fee includes growth-related costs associated with the interceptors and wastewater collection mains that are 10 inches or greater in diameter; mains smaller than 10 inches are typically constructed by developers and "dedicated" or contributed to SAWS and, as such, are not included in the costs used to calculate the impact fee.

SAWS staff used the existing wastewater collection system model to estimate the 2014 and 2023 capacity requirements, based on the design peak wet weather flow and the number of EDUs contributing flow, for each collection system project in the CIP, which are listed in Tables B-16 through B-21 of Appendix B. Using this analysis, SAWS staff determined the portion of each project that is required to serve new growth during the study period. Red Oak applied this portion as a percentage of total project capacity to each project's cost estimate to determine the amount of each project that is eligible for inclusion in the Wastewater Collection impact fee calculation.

There are currently six Wastewater Collection impact fee service areas. The proposed service areas are described in each of the following sections.

3.3.6.1. Medio Creek Service Area

The Medio Creek service area is the same for the Wastewater Collection impact fee as for the Wastewater Treatment impact fee. The proposed service area is unchanged from the current service area.

Using the collection system model with planned wastewater collection CIP projects included, SAWS staff estimated the 2014 collection system capacity in the Medio Creek service area to be capable of serving 80,395 EDUs.

Therefore, 11.0% of existing capacity is required for new development in the Medio Creek service area during the 2014-2023 study period:

Study Period Growth Allocation = Study Period Growth / Total 2014 Capacity
Study Period Growth Allocation = 8,838 EDUs / 80,395 EDUs = 11.0%

SAWS' staff analyzed the planned collection system projects to determine the eligible future CIP projects, which are provided in Table B-16 of Appendix B.

3.3.6.2. Upper Medina Service Area

The Upper Medina service area is unchanged from the current service area. The wastewater collected from the Upper Medina customers will flow through the planned Southwest Bexar Sewer Pipeline (formerly Medina River Sewer Outfall) to the Dos Rios Water Recycling Center.

Using the existing collection system model, SAWS staff estimated the 2014 collection system capacity in the Upper Medina service area to be capable of serving 69,333 EDUs.

Therefore, 27.0% of existing capacity is required for new development in the Upper Medina service area during the 2014-2023 study period:

Study Period Growth Allocation = 18,744 EDUs / 69,333 EDUs = 27.0%

SAWS' staff analyzed the planned collection system projects to determine the eligible future CIP projects, which are provided in Table B-17 of Appendix B.

3.3.6.3. Lower Medina Service Area

The Lower Medina service area is unchanged from the current service area, where wastewater will be collected and delivered to the Dos Rios WRC through the downstream portion of the planned SBSP.

Wastewater flows from the Upper Medina service area through the Lower Medina service area to the wastewater treatment facilities. Therefore, collection system infrastructure in the Lower Medina service area must be sized to carry combined flow from customers in the Upper Medina and Lower Medina service areas.

Using the existing collection system model, SAWS staff estimated the 2014 collection system capacity in the Lower Medina service area to be capable of serving 103,000 EDUs.

Therefore, 21.9% of existing capacity is required to serve new development in the Upper Medina and Lower Medina service areas during the 2014-2023 study period:

Study Period Growth Allocation = 22,506 EDUs / 103,000 EDUs = 21.9%

SAWS' staff analyzed the planned collection system projects to determine the eligible future CIP projects, which are provided in Table B-18 of Appendix B.

3.3.6.4. Upper Collection Service Area

The proposed Upper Collection service area is the same as the current Upper Collection service area.

Using the existing collection system model, SAWS staff estimated the 2014 collection system capacity in the Upper Collection service area to be capable of serving 223,562 EDUs.

Therefore, 16.0% of existing capacity is required for new development in the Upper Collection service area during the 2014-2023 study period:

Study Period Growth Allocation = 35,689 EDUs / 223,562 EDUs = 16.0%

SAWS' staff analyzed the planned collection system projects to determine the eligible future CIP projects, which are provided in Table B-19 of Appendix B.

3.3.6.5. Middle Collection Service Area

The proposed Middle Collection service area is unchanged from the current service area. Wastewater flows from the Upper Collection service area through the Middle Collection service area to the Lower Collection service area where the wastewater treatment facilities are located. Therefore, collection system infrastructure in the Middle Collection service area must be sized to carry combined flow from customers in the Upper Collection and Middle Collection service areas.

Using the existing collection system model, SAWS staff estimated the 2014 collection system capacity in the Middle Collection service area to be capable of serving 516,281 EDUs.

Therefore, 9.3% of existing capacity is required for new development in the Upper Collection and Middle Collection service areas during the 2014-2023 study period:

Study Period Growth Allocation = 47,737 EDUs / 516,281 EDUs = 9.3%

SAWS' staff analyzed the planned collection system projects to determine the eligible future CIP projects, which are provided in Table B-20 of Appendix B.

3.3.6.6. Lower Collection Service Area

The proposed Lower Collection service area is unchanged from the current Lower Collection service area.

Wastewater flows from the Upper Collection and Middle Collection service areas through the Lower Collection service area to the wastewater treatment facilities. Therefore, collection system infrastructure in the Lower Collection service area must be

sized to carry combined flow from customers in the Upper Collection and Middle Collection service areas.

Using the existing collection system model, SAWS staff estimated the 2014 collection system capacity in the Lower Collection service area to be capable of serving 811,574 EDUs.

Therefore, 7.9% of existing capacity is required for new development in the Upper Collection, Middle Collection, and Lower Collection service areas during the 2014-2023 study period:

Study Period Growth Allocation = 64,245 EDUs / 811,574 EDUs = 7.9%

SAWS' staff analyzed the planned collection system projects to determine the eligible future CIP projects, which are provided in Table B-21 of Appendix B.

The costs of the eligible facilities for the six Wastewater Collection service areas are summarized in Table 3-25.

Table 3-25: 2014 - 2023 Eligible Wastewater Collection CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
Medio	$17.3	$1.9	$0.8	$29.7	$5.0	$0.0	$47.1	$7.6
Upper Medina	34.6	9.4	3.7	32.4	8.4	0.0	67.0	21.5
Lower Medina	28.5	6.2	2.5	25.5	2.6	0.0	54.0	11.4
Upper Collection	85.6	13.7	5.5	124.2	20.3	0.0	209.8	39.4
Middle Collection	153.2	14.2	5.7	292.4	18.0	0.0	445.6	37.8
Lower Collection	300.3	23.8	9.6	267.7	16.1	0.0	568.0	49.3
Total	**$619.5**	**$69.2**	**$27.8**	**$771.9**	**$70.4**	**$0.0**	**$1,391.5**	**$167.0**

Table 3-26 summarizes the total eligible CIP costs by impact fee category.

Table 3-26: Summary of 2014 – 2023 Eligible CIP Costs

	---------Existing Capacity---------			---------New CIP Capacity---------			-----Total Capacity-----	
Service Area	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Value of Capacity	Value of Eligible Capacity	Eligible Financing Costs	Total Value of All Capacity	Total Value of Eligible Capacity
	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)	($ mil)
Water Delivery	$939.8	$82.4	$32.7	$432.2	$80.0	$0.0	$1,372.5	$195.1
Water Supply	294.3	7.3	0.0	713.9	275.1	0.0	1,008.1	282.4
Wastewater	999.2	111.0	44.6	1,012.6	98.1	0.0	2,011.8	253.7
Total	**$2,233.3**	**$200.7**	**$77.3**	**$2,158.7**	**$453.2**	**$0.0**	**$4,392.4**	**$731.2**

4. Impact Fee Calculations

4.1. Calculated Impact Fee per Service Unit

The calculated impact fee per service unit by service area is calculated by first determining the eligible capital costs for growth-related CIP, as presented in Section 3. Those eligible capital costs per service area are then divided by the projected number of total service units for that service area, which are presented in Section 1, to determine the calculated impact fee per service unit.

Table 4-1 presents the calculated impact fees per service unit, which are calculated by dividing the eligible CIP value by the service units. The service units used in this calculation, as shown in Table 4-1, represent the incremental service units that will be served by the infrastructure in the respective service area. They do not represent the incremental service units that will be located in the service area, which are shown in Tables 1-2 and 2-4.

Table 4-1: Water and Wastewater Calculated Impact Fees per Service Unit

Impact Fee	Service Area	Eligible CIP Value	Service Units	Calculated Impact Fee per Service Unit
Water Supply	All	$282,391,017	95,817	$2,947
Flow	All	121,466,247	95,817	1,268
System Development	High Elevation	8,104,346	8,783	923
	Middle Elevation	38,147,533	45,265	843
	Low Elevation	27,444,441	41,769	657
Treatment	Medio Creek	10,425,148	8,838	1,180
	Leon Creek / Dos Rios	59,418,057	86,751	685
Collection	Medio Creek	6,864,245	8,838	777
	Upper Medina(1)	17,723,860	18,744	1,340
	Lower Medina	8,880,705	22,506	395
	Upper Collection(2)	33,957,995	35,689	2,245
	Middle Collection(3)	32,170,542	47,737	1,294
	Lower Collection	39,821,533	64,245	620

(1) Maximum Impact Fee per Service Unit includes Lower Medina fee

(2) Maximum Impact Fee per Service Unit includes Middle Collection fee

(3) Maximum Impact Fee per Service Unit includes Lower Collection fee

4.2. Credit Calculation

Chapter 395 of the TLGC requires utilities to calculate a credit for growth-related CIP, to be subtracted from the impact fee. The credit is based on the amount of projected future rate revenues or taxes expected to be generated by the new development and used to pay for capital improvements identified in the CIP. This credit provides an adjustment to benefit fee payers who will pay for CIP in both the impact fee and their future rates and taxes. Utilities can calculate this credit and apply it to the calculated impact fee or,

alternatively, can avoid having to calculate the credit by opting to use the statutory credit equal to 50% of the calculated impact fee. SAWS has opted to calculate the credit.

SAWS does not receive tax revenue from the City of San Antonio. Therefore, the impact fee credit is based on the cost of growth-related CIP that is projected to be in future rates of the projected new development. Those costs include debt service payments on outstanding debt for the existing available capacity that has been included in the eligible study period capacity and projected future principal payments for future debt on eligible growth-related CIP. Interest payments on future debt are not included in the credit because they are not included in the impact fee calculation.

4.2.1. Credit for Existing Debt

For the existing available capacity, it is assumed that 65% of the asset value was financed with debt. From discussions with SAWS staff, SAWS has historically financed approximately 65% of its CIP with debt and 35% with cash. Outstanding water supply debt is not included in the credit calculation because capacity at existing water supply facilities is not included in the calculated Water Supply impact fee.

The amount of water delivery outstanding debt is estimated by applying the ratio of existing water delivery assets to existing wastewater assets after subtracting the water supply outstanding debt, which was provided by SAWS staff, from the total outstanding debt. Then the proportion of the annual debt service payments for the study period that is related to the existing available capacity for water delivery is determined.

These calculations are completed for each year in the study period, as shown in Table 4-2 for 2014, and then the eligible existing debt service to be recovered from new development is summed to determine the credit for existing debt, as shown in Line 13 of Table 4-2. Appendix D provides this calculation for all years of the study period.

Table 4-2: Eligible Existing Water Delivery Debt Service from New Development

Line No.	Description	Value
1	2014 Total Debt Service	$141,870,412
2	Outstanding Water Delivery Debt	$846,243,056
3	Debt-funded CIP / Total CIP	65%
4	Total Outstanding Debt	$2,385,457,425
5	2014 Existing Water Delivery Debt Service (1*2*3/4)	$32,713,622
6	Eligible Existing Water Delivery Capacity	$82,432,346
7	2014 Eligible Existing Water Delivery Debt Service (5*6/2)	$3,186,627
8	2014 Beginning Water Delivery Service Units	697,710
9	2014 Projected New Service Units	9,036
10	2014 Year-end Water Delivery Service Units (8+9)	706,747
11	2014 Eligible Existing Water Delivery Debt Service per Service Unit (7/10)	$4.51
12	2014 Eligible Existing Water Delivery Debt Service from EDUs (9*11)	$40,744
13	**Sum of Study Period Eligible Existing Water Delivery Debt Service from EDUs**	**$7,680,076**

This credit is allocated among the impact fees and service areas based on the proportion of eligible existing water delivery capacity value. Table 4-3 provides the water delivery credit for existing debt by impact fee and service area.

Table 4-3: Water Delivery Existing Debt Credit by Impact Fee Service Area

Impact Fee	Service Area	Infrastructure Type	Credit for Existing Debt
Flow	**All**	**Distribution Mains**	**$658,890**
System Development	High Elevation	Well Pumps	$52,604
		High Service and Booster Pump Stations	93,371
		Elevated Storage Tanks	35,437
		Ground Storage Tanks	2,012
		Transmission Mains	50,171
	Subtotal High Elevation		**$233,595**
	Middle Elevation	Well Pumps	$271,108
		High Service and Booster Pump Stations	326,784
		Elevated Storage Tanks	121,616
		Ground Storage Tanks	34,274
		Transmission Mains	175,589
	Subtotal Middle		**$929,371**
	Low Elevation	Well Pumps	$250,170
		High Service and Booster Pump Stations	276,418
		Elevated Storage Tanks	90,682
		Ground Storage Tanks	60,230
		Transmission Mains	148,527
	Subtotal Low Elevation		**$826,027**
Total			**$2,647,883**

The amount of wastewater outstanding debt is estimated by applying the ratio of existing wastewater assets to existing water delivery assets after subtracting the water supply outstanding debt, which was provided by SAWS staff, from the total outstanding debt. Then the proportion of the annual debt service payments for the study period that is related to the existing available capacity for wastewater service is determined.

These calculations are performed for each year in the study period, as shown in Table 4-4 for 2014, and then the eligible existing debt service to be recovered from new development is summed to determine the credit for existing debt, as shown in Line 13 of Table 4-4. Appendix D provides this calculation for each year of the study period.

Table 4-4: Eligible Existing Wastewater Debt Service from New Development

Line No.	Description	Value
1	2014 Total Debt Service	$141,870,412
2	Outstanding Wastewater Debt	$921,445,187
3	Debt-funded CIP / Total CIP	65%
4	Total Outstanding Debt	$2,385,457,425
5	2014 Existing Wastewater Debt Service (1*2*3/4)	$35,620,747
6	Eligible Existing Wastewater Capacity	$111,137,922
7	2014 Eligible Existing Wastewater Debt Service (5*6/2)	$4,296,312
8	2014 Beginning Wastewater Service Units	655,623
9	2014 Projected New Service Units	8,984
10	2014 Year-end Wastewater Service Units (8+9)	664,607
11	2014 Eligible Existing Wastewater Debt Service per Service Unit (7/10)	$6.46
12	2014 Eligible Existing Wastewater Debt Service from EDUs (9*11)	$58,078
13	**Sum of Study Period Eligible Existing Wastewater Debt Service from EDUs**	**$11,055,401**

This credit is allocated among the impact fees and service areas based on the proportion of eligible existing wastewater capacity value. Table 4-5 provides the wastewater credit for existing debt by impact fee and service area.

Table 4-5: Wastewater Existing Debt Credit by Impact Fee Service Area

Impact Fee Category	Service Area	Credit for Existing Debt
Treatment	Medio Creek	$735,294
	Leon Creek / Dos Rios	3,447,090
	Subtotal Treatment	**$4,182,384**
Collection	Medio	189,585
	Upper Medina	931,647
	Lower Medina	619,277
	Upper Collection	1,359,359
	Middle Collection	1,408,559
	Lower Collection	2,364,591
	Subtotal Collection	**$6,873,018**
Total		**$11,055,402**

4.2.2. Credit for Future CIP

SAWS plans to fund most, but not all, of its growth-related CIP with cash from its impact fee revenues. However, it plans to fund 70% of the Water Supply CIP with debt. For purposes of calculating the credit, equal annual funding of the Water Supply CIP over the 10-year study period is assumed, i.e., 10% of the total eligible CIP is funded each year. Annual principal payments for the eligible Water Supply CIP for each year of the study period are projected using a term of 30 years and an annual interest rate of 5.00%. Based on these assumptions, the principal payment per service unit and the total principal to be recovered from new development are calculated.

These calculations are completed for each year in the study period, as shown in Table 4-6 for 2014, and then the water supply principal to be recovered from new development is summed to determine the credit for future CIP, as shown in Line 14 of Table 4-6. Appendix E, Table E-1, provides this calculation for each year of the study period.

Table 4-6: Eligible Future Water Supply Principal from New Development

Line No.	Description	Value
1	Total Eligible Future Water Supply CIP	$282,391,017
2	Percentage of Future Water Supply CIP to be Funded with Debt	70%
3	Annual Allocation of Future Water Supply CIP	10%
4	Annual Eligible Debt-funded Future Water Supply CIP (1*2*3)	$19,767,371
5	Annual Interest Rate	5.00%
6	Bond Term (years)	30
7	Issuance Costs	1.50%
8	2014 Water Supply Principal Payment	$210,193
9	2014 Beginning Water Supply Service Units	697,710
10	2014 Projected New Service Units	9,036
11	2014 Year-end Water Supply Service Units (9+10)	706,747
12	2014 Eligible Future Water Supply Principal per Service Unit (8/11)	$0.30
13	2014 Eligible Future Water Supply Principal from EDUs (10*12)	$2,688
14	**Sum of Study Period Eligible Future Water Supply Principal from EDUs**	**$13,748,173**

Based on discussions with SAWS staff, it is assumed that 70% of the Water Delivery CIP may be funded with debt and paid with rate revenues. Therefore, 70% of the projected annual principal payments on future Water Delivery CIP are included in the credit calculation.

As with the Water Supply CIP, equal annual funding of the Water Delivery CIP over the 10-year study period is assumed, i.e., 10% of the total eligible Water Delivery CIP is funded each year. Annual principal payments for the eligible Water Delivery CIP for each year of the study period are projected using a term of 30 years and an annual interest rate of 5.00%. Based on these assumptions, the principal payment per service unit and the total principal to be recovered from new development are calculated.

These calculations are completed for each year in the study period, as shown in Table 4-7 for 2014, and then the water delivery principal to be recovered from new development is summed to determine the credit for future Water Delivery CIP, as shown in Line 14 of Table 4-7. Tables E-2 through E-19 in Appendix E provide these calculations for each year of the study period by infrastructure type and service area.

Table 4-7: Eligible Future Water Delivery Principal from New Development

Line No.	Description	Value
1	Total Eligible Future Water Delivery CIP	$79,973,840
2	Percentage of Future Water Delivery CIP to be Funded with Debt	70%
3	Annual Allocation of Future Water Delivery CIP	10%
4	Annual Eligible Debt-funded Future Water Delivery CIP (1*2*3)	$5,598,169
5	Annual Interest Rate	5.00%
6	Bond Term (years)	30
7	Issuance Costs	1.50%
8	2014 Water Delivery Principal Payment	$85,567
9	2014 Beginning Water Delivery Service Units	697,710
10	2014 Projected New Service Units	9,036
11	2014 Year-end Water Delivery Service Units (9+10)	706,747
12	2014 Eligible Future Water Delivery Principal per Service Unit (8/11)	$0.12
13	2014 Eligible Future Water Delivery Principal from EDUs (10*12)	$1,094
14	**Sum of Study Period Eligible Future Water Delivery Principal from EDUs**	**$4,503,849**

This credit is allocated among the impact fees and service areas based on the proportion of eligible existing water delivery capacity value. Table 4-8 provides the water delivery credit for existing debt by impact fee and service area.

Table 4-8: Water Delivery Future CIP Credit by Service Area

Impact Fee	Service Area	Infrastructure Type	Credit for Future Debt
Flow	**All**	**Distribution Mains**	**$536,538**
System Development	High Elevation	Well Pumps	$109,191
		High Service and Booster	6,752
		Elevated Storage Tanks	8,102
		Ground Storage Tanks	-
		Transmission Mains	5,402
	Subtotal High Elevation		**$129,447**
	Middle Elevation	Well Pumps	$562,742
		High Service and Booster	134,804
		Elevated Storage Tanks	88,320
		Ground Storage Tanks	18,594
		Transmission Mains	295,174
	Subtotal Middle		**$1,099,634**
	Low Elevation	Well Pumps	$519,281
		High Service and Booster	92,303
		Elevated Storage Tanks	60,105
		Ground Storage Tanks	10,733
		Transmission Mains	72,984
	Subtotal Low Elevation		**$755,406**
Total			**$2,521,025**

For the Wastewater CIP, SAWS plans to fund the entire SBSP project with debt. As with the Water Delivery CIP, it is also assumed that 70% of the remaining Wastewater CIP may be funded with debt and paid with rate revenues. Equal funding of the debt-funded Wastewater CIP over the 10-year study period is assumed so 10% of the total eligible CIP is funded each year. Annual principal payments for the eligible Wastewater CIP for each year of the study period are projected using a term of 30 years and interest rate of

5.00%. Then the principal payment per service unit and the total principal to be recovered from new development are calculated.

These calculations are performed for each year in the study period, as shown in Table 4-9 for 2014, and then the wastewater principal to be recovered from new development is summed to determine the credit for future CIP, as shown in Line 14 of Table 4-9. Tables E-20 through E-27 of Appendix E provide these calculations for all years of the study period by infrastructure type and service area.

Table 4-9: Eligible Future Wastewater Principal from New Development

Line No.	Description	Value
1	Total Eligible Future Wastewater CIP	$98,124,163
2	Percentage of Future Wastewater CIP to be Funded with Debt - Other	70%
3	Annual Allocation of Future Wastewater CIP	10%
4	Annual Eligible Debt-funded Future Wastewater CIP (1*2*3)	$6,868,691
5	Annual Interest Rate	5.00%
6	Bond Term (years)	30
7	Issuance Costs	1.50%
8	2014 Wastewater Principal Payment	$105,210
9	2014 Beginning Wastewater Service Units	655,623
10	2014 Projected New Service Units	8,984
11	2014 Year-end Wastewater Service Units (9+10)	664,607
12	2014 Eligible Existing Wastewater Principal per Service Unit (8/11)	$0.16
13	2014 Eligible Existing Wastewater Principal from EDUs (10*12)	$1,422
14	**Sum of Study Period Eligible Existing Wastewater Principal from EDUs**	**$3,861,935**

This credit is allocated among the impact fees and service areas based on the proportion of eligible existing wastewater capacity value. Table 4-10 provides the wastewater credit for future CIP by impact fee and service area.

Table 4-10: Wastewater Future CIP Credit by Impact Fee Service Area

Impact Fee Category	Service Area	Credit for Future CIP
Treatment	Medio Creek	$20,883
	Leon Creek / Dos Rios	1,640,960
	Subtotal Treatment	**$1,661,843**
Collection	Medio Creek	33,697
	Upper Medina	119,225
	Lower Medina	45,752
	Upper Collection	553,824
	Middle Collection	656,788
	Lower Collection	790,805
	Subtotal Collection	**$2,200,091**
Total		**$3,861,934**

4.3. Maximum Impact Fees

4.3.1. Maximum Impact Fees per Service Unit

The maximum impact fees per service unit include both the value of existing infrastructure with capacity available to serve projected new development from 2014 to

2023 and the value of new water supply, water delivery and wastewater capacity available to serve new development from 2014 to 2023. Table 4-11 shows the calculated impact fees, rate credits, and maximum impact fees by service area.

Table 4-11: Maximum Impact Fees per Service Unit

Impact Fee	Service Area	Calculated Impact Fee per EDU	Calculated Rate Credit/EDU	Maximum Impact Fee per EDU
Water Supply	All	$2,947	$151	$2,796
Flow	All	1,268	86	1,182
System Development	High Elevation	923	40	883
	Middle Elevation	843	44	799
	Low Elevation	657	38	619
Treatment	Medio Creek	1,515	86	1,429
	Dos Rios/Leon Creek	845	59	786
Collection	Medio Creek	863	25	838
	Upper Medina	1,651	86	1,565
	Lower Medina	505	30	475
	Upper Collection	2,666	146	2,520
	Middle Collection	1,561	92	1,469
	Lower Collection	768	49	719

Table 4-12 compares each of the maximum impact fees per EDU with the current impact fees per EDU for each service area.

Table 4-12: Comparison of Maximum Impact Fees and Current Impact Fees

Impact Fee	Service Area	Maximum Impact Fee per EDU	Current Fee per EDU	Change	% Change
Water Supply	All	$2,796	$1,297	$1,499	116%
Flow	All	1,182	1,247	(65)	-5%
System Development	High Elevation	883	966	(83)	-9%
	Middle Elevation	799	774	25	3%
	Low Elevation	619	579	40	7%
Treatment	Medio Creek	1,429	1,379	50	4%
	Dos Rios/Leon Creek	786	552	234	42%
Collection	Medio Creek	838	582	256	44%
	Upper Medina	1,565	1,053	512	49%
	Lower Medina	475	594	(119)	-20%
	Upper Collection	2,520	1,795	725	40%
	Middle Collection	1,469	1,142	327	29%
	Lower Collection	719	552	167	30%

4.3.2. Service Units

The differentiated costs between meter sizes are allocated through the application of the equivalent meter ratios. Since the 5/8-inch water meter is the most frequently used meter by the residential customer, it is equivalent to 1.0 EDU or service unit, which represents 313 gpd of water usage and 240 gpd of wastewater discharge. The Maximum Impact Fee for meter sizes larger than 5/8-inch can be obtained by multiplying the Maximum Impact Fee per EDU from Table 4-11 by the corresponding equivalent meter ratio. Table 4-13

presents the Maximum Water Impact Fees for all meter sizes using the equivalent meter ratios.

Table 4-13: Maximum Water Impact Fees by Meter Size

Meter Size	EDU Factor	Total Water Impact Fee		
		High Elevation	Middle Elevation	Low Elevation
5/8"	1.0	$4,861	$4,777	$4,597
3/4"	1.5	7,292	7,166	6,896
1"	2.0	9,722	9,554	9,194
1 1/2"	5.0	24,305	23,885	22,985
2"	14.0	68,054	66,878	64,358
3"	30.0	145,830	143,310	137,910
4"	50.0	243,050	238,850	229,850
6"	105.0	510,405	501,585	482,685
8"	135.0	656,235	644,895	620,595
10"	190.0	923,590	907,630	873,430
12"	360.0	1,749,960	1,719,720	1,654,920

Table 4-14 presents the Maximum Wastewater Impact Fees for all meter sizes using the equivalent meter ratios.

Table 4-14: Maximum Wastewater Impact Fees by Meter Size

Meter Size	EDU Factor	Total Wastewater Impact Fee					
		Medio Creek	Upper Medina	Lower Medina	Upper Collection	Middle Collection	Lower Collection
5/8"	1.0	$2,267	$2,351	$1,261	$3,306	$2,255	$1,505
3/4"	1.5	3,401	3,527	1,892	4,959	3,383	2,258
1"	2.0	4,534	4,702	2,522	6,612	4,510	3,010
1 1/2"	5.0	11,335	11,755	6,305	16,530	11,275	7,525
2"	14.0	31,738	32,914	17,654	46,284	31,570	21,070
3"	30.0	68,010	70,530	37,830	99,180	67,650	45,150
4"	50.0	113,350	117,550	63,050	165,300	112,750	75,250
6"	105.0	238,035	246,855	132,405	347,130	236,775	158,025
8"	135.0	306,045	317,385	170,235	446,310	304,425	203,175
10"	190.0	430,730	446,690	239,590	628,140	428,450	285,950
12"	360.0	816,120	846,360	453,960	1,190,160	811,800	541,800

Appendix A

EXISTING INFRASTRUCTURE

Table A-1: Existing Infrastructure, Water Delivery - System Development, Well Pumps

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
1	34 St. WP1	$ 1,776,954	7.20
2	34 St. WP3	$ 2,338,403	9.36
3	Artesia WP3	$ 2,411,333	10.09
4	Artesia WP4	$ 2,274,733	10.80
5	Artesia WP5	$ 2,537,514	10.08
6	Market WP1	$ 2,437,958	10.80
7	Market WP3	$ 2,674,114	10.80
8	Market WP4	$ 3,115,169	21.60
9	Mission WP1	$ 2,395,705	9.00
10	Mission WP2	$ 2,027,001	5.18
11	Mission WP3	$ 2,027,001	7.20
12	Mission WP4	$ 2,425,224	11.52
13	Mission WP5	$ 2,986,673	11.20
14	Mission WP6	$ 2,325,090	9.18
15	Mission WP7	$ 2,187,911	6.50
16	Basin WP1	$ 2,740,098	11.52
17	Basin WP2	$ 2,743,571	11.52
18	Basin WP3	$ 2,788,719	11.52
19	Basin WP5	$ 2,947,313	11.52
20	Basin WP6	$ 2,957,732	11.52
21	Basin WP7	$ 2,969,308	11.52
22	34 St. WP2	$ 2,311,777	9.36
23	34 St. WP4	$ 3,183,469	12.96
24	Brackenridge WP13	$ 2,286,309	4.03
25	Brackenridge WP14	$ 2,060,573	3.02
26	Gateway WP1	$ 2,057,100	1.77
27	Gateway WP2	$ 2,268,945	1.77
28	Klaus WP1	$ 2,689,163	4.98
29	Lackland City 3 WP1	$ 2,635,912	4.90
30	Lackland City 6 WP1	$ 3,461,299	4.61
31	Lackland City 6A WP1	$ 4,926,852	5.04
32	Marbach WP1	$ 3,912,773	12.24
33	Marbach WP2	$ 3,912,773	12.24
34	Marbach WP3	$ 3,917,403	12.24
35	Northwood WP1	$ 2,514,362	5.04
36	Randolph WP1	$ 4,067,894	12.10
37	Randolph WP3	$ 4,167,450	12.10
38	Seale WP2	$ 1,669,874	4.75
39	Seale WP3	$ 2,165,916	4.90
40	Seale WP4	$ 2,228,428	7.20
41	Sunshine WP1	$ 1,768,851	3.46
42	Sutton WP	$ 2,546,775	4.03
43	Walzem WP1	$ 1,881,141	2.19
44	Woodlake WP1	$ 1,638,039	2.02
45	Dover WP1	$ -	0.00
46	Lindberg WP1	$ 2,639,385	3.17
47	Stapleton WP1	$ 2,639,385	3.17
48	Upsom Park WP1	$ 2,375,447	1.15
49	Barbet 2 WP1	$ 3,247,138	5.04
50	Loma Linda WP1	$ 2,778,300	4.32
51	Micron WP1	$ 3,698,612	10.10
52	Micron WP2	$ 3,692,824	10.10
53	Pipers Meadow WP1	$ 1,605,626	2.88
54	Wurzbach WP1	$ 5,423,473	12.96

Table A-1: Existing Infrastructure, Water Delivery - System Development, Well Pumps

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
55	Wurzbach WP3	$ 5,450,099	11.81
56	Maltsberger WP1	$ 3,711,346	12.53
57	Maltsberger WP2	$ 3,662,726	12.53
58	Maltsberger WP3	$ 3,692,824	12.53
59	Maltsberger WP4	$ 3,693,981	9.36
60	Maltsberger WP5	$ 3,690,509	12.53
61	Maltsberger WP6	$ 3,690,509	12.53
62	Naco WP1	$ 3,205,464	10.08
63	Naco WP2	$ 3,205,464	10.80
64	Naco WP3	$ 6,582,256	10.80
65	Naco WP4	$ 6,554,473	10.80
66	Naco WP5	$ 3,229,774	10.08
67	Naco WP6	$ 5,012,516	20.16
68	Naco WP7	$ 5,047,245	20.16
69	Randolph WP2	$ 4,108,411	12.10
70	Shady Forest WP1	$ -	0.32
71	Shady Forest WP1	$ -	0.42
72	411 Carlisle WP2	$ 729,871	2.88
73	411 Carlisle WP1	$ 526,708	2.88
74	King WP3	$ 225,737	2.98
75	King WP4	$ -	0.00
76	King WP5	$ 677,211	4.39
77	Linden WP1	$ 1,354,421	11.10
78	S. Zarzamora WP1	$ 451,474	1.73
79	S. Zarzamora WP3	$ 564,342	3.31
80	S. Zarzamora WP4	$ 902,948	6.20
81	Pitluk WP2	$ 451,474	2.09
82	Pitluk WP3	$ 451,474	2.23
83	Pitluk WP1	$ -	0.00
84	Pitluk WP4	$ -	0.00
85	Querida WP1	$ 564,342	2.81
86	SW 21st St. WP1 (Edgewood)	$ -	0.00
87	SW 21st St. WP2 (Edgewood)	$ 677,211	3.17
88	Hickory Hollow WP1	$ 150,931	0.17
89	Hickory Hollow WP2	$ 159,961	0.26
90	Memorial Lane	$ 155,446	0.26
91	Adam's Hill WP1	$ -	0.00
92	Cagnon Rd. WP1	$ 863,009	3.98
93	Cagnon Rd. WP2	$ 863,009	4.01
94	Calle Briseno (Meadow Wood Acres) 170WP1	$ 338,605	0.72
95	Calle Briseno (Meadow Wood Acres) 169WP1	$ -	0.00
96	Country Oaks 096WP1	$ -	0.09
97	Gibbs Sprawl WP1	$ 1,154,314	3.96
98	Little Joe Trail (Geronimo Village) 040WP1	$ 376,228	0.43
99	Montgomery WP1	$ 706,151	2.67
100	Reyes Ln. (Mountain Laurel) WP1	$ -	0.33
101	Tamaron 070WP1	$ 400,851	2.16
102	Bear Creek WP1	$ 766,394	2.67
103	Marbach Rd. WP1	$ 629,574	2.38
104	Marbach Rd. WP2	$ 268,395	0.39
105	Tippecanoe WP1	$ 372,501	2.67
106	New World WP1	$ 774,590	4.90
107	New World WP2	$ 594,001	3.60
108	Near Lotus Walk/Swann WP1	$ -	0.00

Table A-1: Existing Infrastructure, Water Delivery - System Development, Well Pumps

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
109	Near Lotus Walk/Swann WP2	$ -	0.00
110	Talley Rd. WP1	$ 240,543	0.08
111	CR WP1 (Westview)	$ -	0.00
112	CR WP2 (Westview)	$ -	0.00
113	Anderson WP1	$ 3,630,312	10.08
114	Anderson WP2	$ 3,195,045	10.08
115	Anderson WP4	$ 6,511,641	10.08
116	Anderson WP5	$ 5,382,956	10.08
117	Ramsey WP1	$ 2,882,486	4.03
118	Micron WP3	$ 3,727,553	10.08
119	Wurzbach WP2	$ 5,468,621	12.96
120	Wurzbach WP4	$ 5,459,360	11.52
121	Wurzbach WP5	$ 7,692,418	20.16
122	Wurzbach WP6	$ 7,721,359	20.16
123	Culebra WP1	$ 3,426,570	0.22
124	Culebra WP2	$ -	3.00
125	Culebra WP3	$ -	3.00
126	Dreamhill WP1	$ 2,957,732	4.03
127	Turtle Creek 2 WP1	$ 3,050,342	5.01
128	Turtle Creek 2 WP2	$ 3,249,453	5.01
129	Turtle Creek 3 WP1	$ 3,345,536	3.24
130	Lemonwood WP1 023WPI	$ 1,575,528	3.03
131	West Ave. WP1 027WP1	$ 1,340,530	2.08
132	Wottlin Rd. WP1 024 WP1	$ 863,588	2.95
133	Rabbit Nook WP1 (Elm Valley)	$ -	0.44
134	Ray Lieck WP1 (Elm Valley)	$ 656,373	0.24
135	Texas Research Park	$ 1,487,548	5.04
136	Texas Research Park	$ -	5.04
137	Blackhawk	$ 481,572	1.01
138	Blackhawk	$ 662,162	1.66
139	Tower	$ 589,231	0.58
140	Enchanted Sun WP1	$ -	0.86
141	Stevens Ranch Pkwy WP1	$ 999,030	4.32
142	Texas Research Park WP1	$ 990,927	3.03
143	Texas Research Park WP2	$ 990,927	3.03
144	Aspen WP1	$ 590,389	3.60
145	Aspen WP2	$ 816,126	6.48
146	Aspen WP3	$ 409,799	2.16
147	Bitters Rd. WP1	$ 1,354,421	1.44
148	Bestway 80WP1 (Poco Pass)	$ 334,901	0.12
149	Bestway 80WP2 (Poco Pass)	$ 352,960	0.17
150	Bestway 81WP1 (Poco Pass)	$ 325,871	0.08
151	Enchanted Eve WP1	$ 158,595	0.15
152	Geronimo Loop WP1 (Geronimo Forest) 128WP1	$ 321,820	0.33
153	Timberline 075WP3	$ 408,642	0.86
154	Timberline 078WP2	$ 354,465	0.00
155	Wild Turkey WP1	$ 566,414	0.72
156	Wild Turkey WP2	$ 656,709	0.94
157	Wild Turkey WP3	$ 701,856	1.08
158	Wild Turkey WP4	$ 611,562	0.86
159	Wild Turkey WP5	$ 476,120	0.36
160	Concept Therapy WP1	$ 695,385	0.10
161	Concept Therapy WP2	$ 690,871	0.10
162	S&S Hills WP1	$ 687,629	0.04

Table A-1: Existing Infrastructure, Water Delivery - System Development, Well Pumps

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
163	S&S Hills WP2	$ 728,146	0.04
164	S&S Hills WP3	$ 716,570	0.04
165	S&S Hills WP4	$ 831,175	0.11
166	Village Green 134WP1	$ 579,623	0.12
167	Village Green 140WP1	$ 692,723	0.04
168	Woods at Fair Oaks 136WP1	$ 577,076	0.14
169	Woods at Fair Oaks 137WP1	$ 614,467	0.22
170	Hidden Springs WP1	$ 1,077,402	0.06
171	Hidden Springs WP2	$ 1,134,009	0.06
172	Hidden Springs WP3	$ 1,116,645	0.06
173	Hidden Springs WP4	$ 1,070,803	0.00
174	180WP1 (Anaqua Springs)	$ -	0.43
175	181WP1 (Anaqua Springs)	$ -	0.18
176	179WP1 (Anaqua Springs)	$ -	0.43
177	**Total**	**$324,382,072**	**888.07**

Table A-2: Existing Infrastructure, Water Delivery - System Development, High Service and Booster Pump Stations in High Elevation Service Area

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
1	Adobe Ranch/Helotes HSP 1	$ 726,043	2.00
2	Adobe Ranch/Helotes HSP 2	$ 1,089,065	3.00
3	Adobe Ranch/Helotes HSP 3	$ 363,022	1.00
4	Adobe Ranch/Helotes HSP 4	$ 363,022	1.00
5	Concept Therapy Institute Booster 1	$ 30,225	0.17
6	Concept Therapy Institute Booster 2	$ 30,225	0.17
7	Dominion Booster Station Booster 1	$ 176,567	0.50
8	Dominion Booster Station Booster 2	$ 176,567	0.50
9	Dominion Booster Station Booster 3	$ 573,489	1.40
10	Helotes Park Booster Station 1 Booster 1	$ 194,930	1.20
11	Helotes Park Booster Station 1 Booster 2	$ 299,457	1.00
12	Helotes Park Booster Station 2 Booster 1	$ 317,820	0.90
13	Helotes Park Booster Station 2 Booster 2	$ 317,820	0.90
14	Helotes Park Booster Station 2 Booster 3	$ 317,820	0.90
15	Hidden Springs HSP 1	$ 36,636	0.09
16	Hidden Springs HSP 2	$ 91,591	0.22
17	Hills Booster Station Booster 1	$ 1,017,025	3.00
18	Hills Booster Station Booster 2	$ 2,135,753	6.30
19	Hills Booster Station Booster 3	$ 2,135,753	6.30
20	IH 10 Booster Station Booster 1	$ 1,017,025	3.00
21	IH 10 Booster Station Booster 2	$ 2,067,952	6.10
22	IH 10 Booster Station Booster 3	$ 1,017,025	3.00
23	IH 10 Booster Station Booster 4	$ 2,067,952	6.10
24	Indian Hills Booster Station Booster 1	$ 906,750	1.90
25	Indian Hills Booster Station Booster 2	$ 906,750	1.90
26	Indian Hills Booster Station Booster 3	$ 906,750	1.90
27	Indian Hills Booster Station Booster 4	$ 906,750	1.90
28	Indian Hills Booster Station Booster 5	$ 906,750	1.90
29	Indian Hills Booster Station Booster 6	$ 45,338	0.10
30	Los Reyes Canyon #2 Booster 1	$ 42,315	0.40
31	Los Reyes Canyon #2 Booster 2	$ 42,315	0.40
32	Los Reyes Canyon #2 Booster 3	$ 241,800	1.60
33	Los Reyes Canyon #2 Booster 4	$ 241,800	1.60
34	Ranch Town No. 3 Booster 1	$ 266,969	1.40
35	Ranch Town No. 3 Booster 2	$ 266,969	1.40
36	Roft Road Booster Station Booster 1	$ 48,723	0.10
37	Roft Road Booster Station Booster 2	$ 498,342	2.52
38	Roft Road Booster Station Booster 3	$ 498,342	2.52
39	Roft Road Booster Station Booster 4	$ 498,342	2.52
40	S&S Hills Pump Station HSP 1	$ 17,555	0.00
41	S&S Hills Pump Station HSP 2	$ 17,911	0.00
42	S&S Hills Pump Station HSP 3	$ 30,530	0.00
43	S&S Hills Pump Station HSP 4	$ 236,101	0.00
44	Salado Booster Station HSP 1	$ 423,761	1.00
45	Salado Booster Station HSP 2	$ 847,521	2.00
46	Salado Booster Station HSP 3	$ 847,521	2.00
47	Salado Temp Pkg Booster Station Booster 1	$ 369,293	0.86
48	Salado Temp Pkg Booster Station Booster 2	$ 369,293	0.86
49	Salado Temp Pkg Booster Station Booster 3	$ 249,058	0.58
50	Salado Temp Pkg Booster Station Booster 4	$ 249,058	0.58
51	Shields Booster Station Booster 1	$ 604,500	1.30
52	Shields Booster Station Booster 2	$ 1,209,000	2.00
53	Shields Booster Station Booster 3	$ 604,500	1.30
54	Shields Booster Station Booster 4	$ 1,209,000	2.00

Table A-2: Existing Infrastructure, Water Delivery - System Development, High Service and Booster Pump Stations in High Elevation Service Area

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
55	Simon Tract Booster 1	$ 45,338	0.07
56	Simon Tract Booster 2	$ 604,500	1.70
57	Simon Tract Booster 3	$ 604,500	1.70
58	Simon Tract Booster 4	$ 604,500	1.70
59	Tower View Booster Station Booster 1	$ 98,877	0.50
60	Tower View Booster Station Booster 2	$ 177,979	0.90
61	Tower View Booster Station Booster 3	$ 177,979	0.90
62	Village Green HSP 1	$ 143,289	0.46
63	Village Green HSP 2	$ 143,289	0.46
64	Walden Heights Booster Station Booster 1	$ 327,708	0.80
65	Walden Heights Booster Station Booster 2	$ 327,708	0.80
66	Walden Heights Booster Station Booster 3	$ 573,489	1.40
67	Woods Fair Oaks 12B HSP 1	$ 198,450	1.08
68	Woods Fair Oaks 12B HSP 2	$ 99,225	0.43
69	Woods Fair Oaks 12B HSP 3	$ 99,225	0.43
70	Village Green 12B HSP 1	$ 99,225	0.46
71	Village Green 12B HSP 2	$ 99,225	0.46
72	Hidden Springs 12C HSP 1	$ 33,075	0.09
73	Hidden Springs 12C HSP 2	$ 66,150	0.22
74	Toutant Beauregard Rd. (Anaqua Springs) 1636 HSP 1	$ 66,150	0.22
75	Toutant Beauregard Rd. (Anaqua Springs) 1636 HSP 2	$ 66,150	0.22
76	Toutant Beauregard Rd. (Anaqua Springs) 1636 HSP 3	$ 165,375	0.72
77	Toutant Beauregard Rd. (Anaqua Springs) 1636 HSP 4	$ 66,150	0.22
78	Toutant Beauregard Rd. (Anaqua Springs) 1636 HSP 5	$ 66,150	0.22
79	Anaqua Springs 1726 HSP 1	$ 66,150	0.22
80	Anaqua Springs 1726 HSP 2	$ 66,150	0.22
81	**Total**	**$36,158,404**	**103.86**

Table A-3: Existing Infrastructure, Water Delivery - System Development, High Service and Booster Pump Stations in Middle Elevation Service Area

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
1	Anderson Booster Station PZ8 HSP 1-8	$ 2,639,322	10.10
2	Anderson Booster Station PZ8 HSP 2-8	$ 2,639,322	10.10
3	Anderson Booster Station PZ8 HSP 3-8	$ 2,639,322	10.10
4	Anderson Booster Station PZ8 HSP 4-8	$ 444,242	1.70
5	Culebra Pump Station HSP 1	$ 60,450	2.70
6	Culebra Pump Station HSP 2	$ 241,800	2.70
7	Culebra Pump Station HSP 3	$ 241,800	2.70
8	Culebra Pump Station HSP 4	$ 241,800	1.00
9	Encino Booster Station Booster 1	$ 1,538,251	3.30
10	Encino Booster Station Booster 2	$ 1,538,251	3.30
11	Evans Booster Station HSP 1-10	$ 480,262	2.00
12	Evans Booster Station HSP 1-11	$ 680,277	1.40
13	Evans Booster Station HSP 2-10	$ 960,524	4.00
14	Evans Booster Station HSP 2-11	$ 680,277	1.40
15	Evans Booster Station HSP 3-10	$ 480,262	2.00
16	Evans Booster Station HSP 3-11	$ 680,277	1.40
17	Fossil Ridge Booster Station Booster 1	$ 241,800	0.61
18	Fossil Ridge Booster Station Booster 2	$ 241,800	0.61
19	Fossil Ridge Booster Station Booster 3	$ 241,800	0.61
20	Medical Booster Station Booster 1	$ 302,250	2.00
21	Medical Booster Station Booster 2	$ 302,250	2.00
22	Naco Booster Station PZ9 HSP 1-SL9	$ 1,813,500	4.00
23	Naco Booster Station PZ9 HSP 3-SL9	$ 1,813,500	4.00
24	Naco Booster Station PZ9 HSP 4-SL9	$ 4,231,500	8.10
25	Redland Pump Station HSP 1	$ 282,507	2.00
26	Redland Pump Station HSP 2	$ 565,014	4.00
27	Redland Pump Station HSP 3	$ 282,507	2.00
28	Redland Pump Station HSP 4	$ 565,014	4.00
29	Sasse Booster Station Booster 1	$ 151,125	1.00
30	Sasse Booster Station Booster 2	$ 151,125	1.00
31	Sasse Booster Station Booster 3	$ 151,125	1.00
32	Turtle Creek No. 2 Booster Station HSP 1	$ 1,209,000	5.00
33	Turtle Creek No. 2 Booster Station HSP 2	$ 604,500	5.00
34	Turtle Creek No. 2 Booster Station HSP 3	$ 906,750	5.00
35	Winchester Booster Station Booster 1	$ 218,519	1.30
36	Winchester Booster Station Booster 2	$ 218,519	1.30
37	Winchester Booster Station Booster 3	$ 237,306	1.20
38	Rabbit Nook (Elm Valley) 1065 HSP 1	$ 66,150	0.24
39	Rabbit Nook (Elm Valley) 1065 HSP 2	$ 66,150	0.24
40	Ray Lieck (Elm Valley) 1065 HSP 3	$ 99,225	0.22
41	Ray Lieck (Elm Valley) 1065 HSP 4	$ 132,300	0.36
42	Ray Lieck (Elm Valley) 1065 HSP 5	$ 264,600	0.72
43	Ray Lieck (Elm Valley) 1065 HSP 6	$ 264,600	0.72
44	Texas Research Park 1170 HSP 1	$ 66,150	0.36
45	Texas Research Park 1170 HSP 2	$ 198,450	1.08
46	Texas Research Park 1170 HSP 3	$ 330,750	1.80
47	Texas Research Park 1170 HSP 4	$ 330,750	1.80
48	Stevens Ranch 1170 HSP 1	$ 231,525	1.44
49	Stevens Ranch 1170 HSP 2	$ 231,525	1.44
50	Stevens Ranch 1170 HSP 3	$ 429,975	2.88
51	Stevens Ranch 1170 HSP 4	$ 429,975	2.88
52	Loop 1604 1290 HSP 1	$ 1,025,325	4.03
53	Loop 1604 1290 HSP 2	$ 1,025,325	4.03
54	Loop 1604 1290 HSP 3	$ 1,025,325	4.03

Table A-3: Existing Infrastructure, Water Delivery - System Development, High Service and Booster Pump Stations in Middle Elevation Service Area

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
55	Loop 1604 1290 HSP 4	$ 1,025,325	4.03
56	Loop 1604 1290 HSP 5	$ 1,025,325	4.03
57	Loop 1604 1290 HSP 6	$ 1,025,325	4.03
58	Loop 1604 1290 HSP 7	$ 1,289,925	5.04
59	Knight's Cross 1395 HSP 1	$ 463,050	2.56
60	Knight's Cross 1395 HSP 2	$ 463,050	2.56
61	Knight's Cross 1395 HSP 3	$ 463,050	2.56
62	Knight's Cross 1395 HSP 4	$ 463,050	2.56
63	Knight's Cross 1395 HSP 5	$ 893,025	5.04
64	Timberline 1520 HSP 1	$ 66,150	0.29
65	Timberline 1520 HSP 2	$ 66,150	0.29
66	Timberline 1520 HSP 3	$ 66,150	0.58
67	Timberline 1520 HSP 4	$ 66,150	0.29
68	Timberline 1520 HSP 5	$ 66,150	0.29
69	Timberline 1520 HSP 6	$ 132,300	0.58
70	Bestway 1520 HSP 1	$ 66,150	0.29
71	Bestway 1520 HSP 2	$ 66,150	0.29
72	Bestway 1520 HSP 3	$ 66,150	0.29
73	Enchanted Eve 1520 HSP 1	$ 33,075	0.22
74	Enchanted Eve 1520 HSP 2	$ 66,150	0.58
75	Wild Turkey 1520 HSP 1	$ 198,450	0.72
76	Wild Turkey 1520 HSP 2	$ 264,600	1.08
77	Wild Turkey 1520 HSP 3	$ 363,825	1.44
78	Wild Turkey 1520 HSP 4	$ 363,825	1.44
79	Wild Turkey 1520 HSP 5	$ 529,200	2.16
80	Country Oaks 1520 HSP 1	$ 33,075	0.12
81	Country Oaks 1520 HSP 2	$ 33,075	0.12
82	Geronimo Loop (Geronimo Forest) 1520 HSP 1	$ 66,150	0.22
83	Geronimo Loop (Geronimo Forest) 1520 HSP 2	$ 66,150	0.29
84	Geronimo Loop (Geronimo Forest) 1520 HSP 3	$ 66,150	0.29
85	**Total**	**$46,992,302**	**188.21**

Table A-4: Existing Infrastructure, Water Delivery - System Development, High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
1	34th Street Booster Station HSP 1	$ 1,209,000	3.00
2	34th Street Booster Station HSP 2	$ 2,418,000	6.10
3	34th Street Booster Station HSP 3	$ 2,418,000	12.00
4	34th Street Booster Station HSP 4	$ 2,418,000	12.00
5	34th Street Booster Station HSP 5	$ 2,418,000	13.40
6	Artesia Booster Station HSP 1	$ 1,511,250	6.10
7	Artesia Booster Station HSP 2	$ 3,627,000	15.10
8	Artesia Booster Station HSP 3	$ 3,627,000	15.10
9	Artesia Booster Station HSP 4	$ 3,627,000	0.00
10	Basin Booster Station HSP 1	$ 5,440,500	20.20
11	Basin Booster Station HSP 2	$ 2,720,250	10.10
12	Basin Booster Station HSP 3	$ 2,720,250	10.10
13	Basin Booster Station HSP 4	$ 5,440,500	20.20
14	Basin Booster Station HSP 5	$ 5,440,500	20.20
15	Basin Booster Station HSP 6	$ 5,440,500	20.20
16	Marbach Booster Station HSP 1	$ 1,464,799	6.10
17	Marbach Booster Station HSP 2	$ 3,627,000	15.10
18	Marbach Booster Station HSP 3	$ 3,627,000	15.10
19	Marbach Booster Station HSP 4	$ 3,627,000	15.10
20	Marbach Booster Station HSP 5	$ 3,627,000	6.10
21	Market Booster Station HSP 1	$ 3,022,500	13.70
22	Market Booster Station HSP 2	$ 3,022,500	13.80
23	Market Booster Station HSP 3	$ 3,022,500	13.70
24	Market Booster Station HSP 4	$ 3,022,500	13.70
25	Micron Pump Station PZ5 HSP 1-5	$ 1,836,296	6.50
26	Micron Pump Station PZ5 HSP 2-5	$ 2,853,321	8.60
27	Mission Booster Station HSP 1	$ 3,627,000	12.10
28	Mission Booster Station HSP 2	$ 3,627,000	12.10
29	Mission Booster Station HSP 3	$ 3,627,000	12.10
30	Mission Booster Station HSP 4	$ 2,418,000	9.40
31	Mission Booster Station HSP 5	$ 3,627,000	12.10
32	Mission Booster Station HSP 6	$ 3,627,000	12.10
33	Naco Booster Station PZ5 HSP 1	$ 1,209,000	5.00
34	Naco Booster Station PZ5 HSP 2	$ 2,418,000	10.10
35	Naco Booster Station PZ5 HSP 3	$ 1,209,000	5.00
36	Naco Booster Station PZ5 HSP 4	$ 2,418,000	10.10
37	Pipers Meadow Booster Station HSP 1	$ 302,250	1.40
38	Pipers Meadow Booster Station HSP 2	$ 302,250	1.40
39	Randolph Booster Station PZ4 HSP 1	$ 4,231,500	12.10
40	Randolph Booster Station PZ4 HSP 2	$ 4,231,500	12.10
41	Randolph Booster Station PZ4 HSP 3	$ 4,231,500	0.00
42	Seale Booster Station HSP 1	$ 1,209,000	5.00
43	Seale Booster Station HSP 2	$ 1,209,000	5.00
44	Seale Booster Station HSP 3	$ 1,209,000	5.00
45	Wurzbach Booster Station PZ5 HSP 1-5	$ 1,813,500	13.00
46	Wurzbach Booster Station PZ5 HSP 2-5	$ 1,813,500	11.20
47	Wurzbach Booster Station PZ5 HSP 3-5	$ 1,813,500	15.10
48	King PZ790 HSP 1	$ 297,675	3.00
49	King PZ790 HSP 2	$ 429,975	4.40
50	King PZ790 HSP 3	$ 231,525	2.20
51	S. Zarzamora 790 HSP 1	$ 496,125	4.61
52	S. Zarzamora 790 HSP 2	$ 496,125	4.61
53	S. Zarzamora 790 HSP 3	$ 628,425	5.76
54	La Rosa 790 HSP 1	$ 595,350	5.76

Table A-4: Existing Infrastructure, Water Delivery - System Development, High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
55	La Rosa 790 HSP 2	$ 463,050	4.32
56	La Rosa 790 HSP 3	$ 463,050	4.30
57	La Rosa 790 HSP 4	$ 297,675	2.88
58	Golden 790 HSP 1	$ 330,750	4.30
59	Golden 790 HSP 2	$ 330,750	4.30
60	Golden 790 HSP 3	$ 330,750	4.30
61	Golden 790 HSP 4	$ 330,750	4.30
62	Golden 790 HSP 5	$ 132,300	0.97
63	Golden 790 HSP 6	$ 132,300	0.97
64	Golden 790 HSP 7	$ 132,300	0.97
65	Golden 790 HSP 8	$ 132,300	0.97
66	SW 21st St. (Edgewood) 820 HSP 2	$ 330,750	2.88
67	SW 21st St. (Edgewood) 820 HSP 1	$ 165,375	1.44
68	Somerset 830 HSP 1	$ 66,150	0.29
69	Somerset 830 HSP 2	$ 99,225	0.72
70	Somerset 830 HSP 3	$ 198,450	1.44
71	Somerset 830 HSP 4	$ 165,375	1.15
72	Somerset 830 HSP 5	$ 330,750	1.87
73	Silver Mountain 830 HSP 1	$ 99,225	0.72
74	Silver Mountain 830 HSP 2	$ 99,225	0.72
75	Silver Mountain 830 HSP 3	$ 99,225	0.72
76	Memorial 830 HSP 1	$ 66,150	0.29
77	Memorial 830 HSP 2	$ 66,150	0.29
78	Memorial 830 HSP 3	$ -	0.06
79	New World 950 HSP 1	$ 66,150	0.47
80	New World 950 HSP 2	$ 66,150	0.47
81	New World 950 HSP 3	$ 264,600	0.47
82	Little Joe Trail 950 HSP 1	$ 33,075	0.07
83	Little Joe Trail 950 HSP 2	$ 33,075	0.11
84	Little Joe Trail 950 HSP 3	$ 33,075	0.14
85	Cagnon Road 950 HSP 1	$ 297,675	2.31
86	Cagnon Road 950 HSP 2	$ 429,975	3.46
87	Cagnon Road 950 HSP 3	$ 529,200	4.32
88	Calle Briseno (Meadow Wood Acres) 950 HSP 1	$ 33,075	0.17
89	Calle Briseno (Meadow Wood Acres) 950 HSP 2	$ 66,150	0.23
90	Calle Briseno (Meadow Wood Acres) 950 HSP 3	$ 33,075	0.19
91	Tamaron 950 HSP 1	$ 66,150	0.29
92	Tamaron 950 HSP 2	$ 66,150	0.29
93	Tamaron 950 HSP 3	$ 99,225	0.58
94	Reyes Ln. (Mountain Laurel) 950 HSP 1	$ 33,075	0.18
95	Reyes Ln. (Mountain Laurel) 950 HSP 2	$ 33,075	0.18
96	Reyes Ln. (Mountain Laurel) 950 HSP 3	$ 132,300	0.72
97	Reyes Ln. (Mountain Laurel) 950 HSP 4	$ 132,300	0.72
98	Far West 950 HSP 1	$ 132,300	0.93
99	Far West 950 HSP 2	$ 132,300	0.93
100	Far West 950 HSP 3	$ 132,300	0.93
101	Far West 950 HSP 4	$ 132,300	0.93
102	Marbach Rd. 999 HSP 1	$ 132,300	0.94
103	Marbach Rd. 999 HSP 2	$ 165,375	1.37
104	Marbach Rd. 999 HSP 3	$ 628,425	5.48
105	Tippecanoe 999 HSP 1	$ 99,225	1.08
106	Tippecanoe 999 HSP 2	$ 99,225	1.08
107	Tower 1096 HSP 1	$ 66,150	0.58
108	Donella 1096 HSP 1	$ 33,075	0.36

Table A-4: Existing Infrastructure, Water Delivery - System Development, High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
109	Donella 1096 HSP 2	$ 66,150	0.72
110	Donella 1096 HSP 3	$ 99,225	1.08
111	Donella 1096 HSP 4	$ 99,225	1.08
112	Donella 1096 HSP 5	$ 99,225	0.86
113	Donella 1096 HSP 6	$ 99,225	0.86
114	Donella 1096 HSP 7	$ 99,225	0.86
115	Lemonwood 1012 HSP 1	$ 198,450	1.73
116	Lemonwood 1012 HSP 2	$ 413,438	3.17
117	Westview 1161 HSP 1	$ -	0.00
118	CR (Westview) 1161 HSP 1	$ 66,150	0.22
119	CR (Westview) 1161 HSP 2	$ 66,150	0.36
120	CR (Westview) 1161 HSP 3	$ 132,300	0.72
121	CR (Westview) 1161 HSP 4	$ 264,600	1.44
122	**Total**	**$147,342,779**	**611.26**

Table A-5: Existing Infrastructure, Water Delivery - System Development, Shared High Service and Booster Pump Stations

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
1	Anderson Booster Station HSP 1	$ 1,511,250	10.10
2	Anderson Booster Station HSP 2	$ 1,511,250	10.10
3	Anderson Booster Station HSP 3	$ 1,511,250	10.10
4	Anderson Booster Station HSP 4	$ 1,511,250	10.10
5	Anderson Booster Station HSP 5	$ 1,511,250	10.10
6	Anderson Booster Station HSP 6	$ 1,511,250	10.10
7	Bitters Booster Station Booster 01	$ 906,750	3.60
8	Bitters Booster Station Booster 02	$ 3,022,500	3.00
9	Bitters Booster Station Booster 03	$ 3,627,000	5.00
10	Bitters Booster Station Booster 05	$ 1,813,500	7.60
11	Bitters Booster Station Booster 06	$ 1,813,500	10.10
12	Bitters Booster Station Booster 09	$ 1,795,182	6.10
13	Bitters Booster Station Booster 10	$ 453,375	6.10
14	Bitters Booster Station Booster 11	$ 181,350	6.10
15	Inwood Booster Station Booster 1	$ 604,500	1.00
16	Inwood Booster Station Booster 2	$ 604,500	1.00
17	Inwood Booster Station Booster 3	$ 1,209,000	2.00
18	Inwood Booster Station Booster 4	$ 550,889	2.60
19	Inwood Booster Station Booster 5	$ 1,209,000	2.90
20	Maltsberger Booster Station HSP 1	$ 3,022,500	10.10
21	Maltsberger Booster Station HSP 2	$ 3,022,500	10.10
22	Maltsberger Booster Station HSP 3	$ 3,022,500	10.10
23	Maltsberger Booster Station HSP 4	$ 3,022,500	10.10
24	Maltsberger Booster Station HSP 5	$ 3,022,500	10.10
25	Maltsberger Booster Station HSP 6	$ 3,022,500	10.10
26	Maltsberger Booster Station HSP 7	$ 1,511,250	6.10
27	Micron Pump Station HSP 1-7	$ 3,851,984	10.10
28	Micron Pump Station HSP 2-7	$ 3,851,984	10.10
29	Micron Pump Station HSP 3-7	$ 3,851,984	10.10
30	Naco Booster Station HSP 1	$ 3,022,500	10.10
31	Naco Booster Station HSP 2	$ 3,022,500	10.10
32	Naco Booster Station HSP 3	$ 3,022,500	10.10
33	Naco Booster Station HSP 4	$ 3,022,500	10.10
34	Naco Booster Station HSP 5	$ 2,115,750	5.00
35	Randolph Booster Station HSP 1	$ 4,231,500	6.10
36	Randolph Booster Station HSP 2	$ 4,231,500	6.10
37	Randolph Booster Station HSP 3	$ 4,231,500	0.00
38	Sunset Booster Station Booster 1	$ 1,424,747	10.10
39	Sunset Booster Station Booster 2	$ 1,424,747	10.10
40	Sunset Booster Station Booster 3	$ 1,424,747	10.10
41	University Booster Station Booster 2	$ 1,567,222	5.00
42	University Booster Station Booster 3	$ 1,567,222	5.00
43	University Booster Station Booster 4	$ 1,567,222	5.00
44	University Booster Station Booster 5	$ 3,063,207	10.10
45	Wurzbach Booster Station HSP 1-7	$ 4,060,530	15.10
46	Wurzbach Booster Station HSP 2-7	$ 3,453,588	12.20
47	Wurzbach Booster Station HSP 3-7	$ 3,419,394	12.10
48	Wurzbach Booster Station HSP 4-7	$ 6,268,889	20.30
49	Wurzbach Booster Station HSP 5-7	$ 4,060,530	15.10
50	**Total**	**$118,263,045**	**402.50**

Table A-6: Existing Infrastructure, Water Delivery - System Development, Elevated Storage Tanks in High Elevation Service Area

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MG)
1	IH-10 Hydropneumatic	$ 13,457	0.01
2	Ranch Town**	$ 1,345,739	1.00
3	Shields**	$ 4,180,300	3.97
4	Dominion Hydropneumatic	$ 8,344	0.01
5	Walden Heights Hydropneumatic	$ 8,344	0.01
6	Helotes Park #2**	$ 457,551	0.07
7	Helotes Park #3**	$ 596,987	0.22
8	Helotes Park #3 Hydropneumatic/ Tower View	$ 6,729	0.01
9	Salado Hydropneumatic	$ 6,460	0.00
10	Simon Tract Hydropneumatic	$ 11,439	0.01
11	Los Reyes Canyon Hydropneumatic	$ 3,364	0.00
12	Indian Hills Hydropneumatic	$ 20,186	0.02
13	Indian Hills Hydropneumatic	$ 20,186	0.02
14	Ranch Town #2 Hydropneumatic	$ 26,915	0.02
15	Sundance Hydropneumatic	$ 6,729	0.01
16	Concept Therapy Institute Hydropneumatic	$ 10,093	0.01
17	S&S Hills Hydropneumatic 1	$ 1,346	0.00
18	S&S Hills Hydropneumatic 2	$ 1,346	0.00
19	S&S Hills Hydropneumatic 3	$ 6,729	0.01
20	Village Green Hydropneumatic	$ 6,729	0.01
21	Woods at Fair Oaks Hydropneumatic	$ 6,056	0.00
22	Hidden Springs Hydropneumatic	$ 1,977,727	0.01
23	Cedar Creek Hydropneumatic	$ -	0.00
24	Cross Mountain	$ 3,442,090	1.50
25	Anaqua Springs 199 HT1	$ 471	0.00
26	Anaqua Springs 179 HT1	$ 5,383	0.00
27	Anaqua Springs 179 HT2	$ 5,383	0.00
28	**Total**	**$12,176,080**	**6.90**

Table A-7: Existing Infrastructure, Water Delivery - System Development, Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MG)
1	Babcock	$ 4,425,544	2.50
2	Braun**	$ 705,862	0.33
3	Callaghan	$ 2,950,363	1.00
4	Lockhill	$ 3,442,090	1.50
5	Salado**	$ 5,165,902	5.00
6	Sunset**	$ 3,847,946	3.62
7	Helotes	$ 6,884,180	5.00
8	Hills**	$ 2,778,300	2.50
9	IH 10**	$ 2,711,447	2.43
10	Inwood Hydropneumatic	$ 13,457	0.01
11	Medical	$ 2,950,363	1.00
12	Culebra Hydroneumatic	$ 13,457	0.01
13	Evans	$ 3,334,275	3.44
14	Judson N.	$ 570,938	0.25
15	Sasse Hydropneumatic	$ 13,457	0.01
16	Encino Hydroneumatic	$ 26,915	0.02
17	Marshall Rd.**	$ 915,971	0.55
18	Roft Rd Hydropneumatic	$ 6,729	0.01
19	Roft **	$ 2,300,780	2.00
20	Evans Hydropneumatic	$ 13,457	0.01
21	Fossil Ridge Hydropneumatic	$ 3,364	0.00
22	Indian Springs	$ 1,536,747	1.20
23	Winchester Heights Hydropneumatic	$ 16,149	0.01
24	Ventura (Fleetwood)	$ 868,219	0.50
25	Stevens Ranch	$ 4,425,544	2.50
26	Little Joe Trail (Geronimo Village) 040HT1	$ 3,364	0.00
27	Little Joe Trail (Geronimo Village) 040HT2	$ 5,787	0.00
28	Tammaron 070HT1	$ 3,364	0.00
29	Tammaron 070HT2	$ 2,691	0.00
30	Country Oaks 096HT1	$ 1,211	0.00
31	Country Oaks 096HT1	$ 1,211	0.00
32	Country Oaks 096HT3	$ 2,691	0.00
33	097 HT1	$ 6,729	0.01
34	Enchanted Sun 083HT1	$ 4,441	0.00
35	Enchanted Sun 083HT2	$ 3,095	0.00
36	Rabbit Nook 084HT1	$ 6,729	0.01
37	Ray Lieck 085HT1	$ 6,729	0.01
38	Knight's Cross 064ET1 **	$ 6,120,942	6.00
39	Echo Mountain	$ 3,364,348	2.50
40	Geronimo Loop 123HT1 (Geronimo Forest)	$ 6,729	0.01
41	**Total**	**$59,461,517**	**43.94**

Table A-8: Existing Infrastructure, Water Delivery - System Development, Elevated Storage Tanks in Low Elevation Service Area

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MG)
1	Mission Del Lago	$ 2,950,363	1.00
2	Watson	$ 2,950,363	1.00
3	Foster	$ 3,933,817	2.00
4	Gen Mcmullen	$ 3,933,817	2.00
5	Highlands	$ 3,442,090	1.50
6	Lions	$ 3,442,090	1.50
7	South Foster	$ 3,933,817	2.00
8	Austin	$ 3,442,090	1.50
9	Broadview	$ 6,392,453	4.50
10	Dwyer	$ 2,950,363	1.00
11	Hildebrand	$ 3,933,817	2.00
12	Loma Linda	$ 2,950,363	1.00
13	Northridge	$ 3,442,090	1.50
14	Wayland	$ 6,884,180	5.00
15	Hall	$ -	0.00
16	Tinker	$ 2,704,499	0.75
17	Westover	$ 2,271,779	0.31
18	Bitters Hydropneumatic	$ 13,457	0.01
19	Grissom	$ 4,425,544	2.50
20	Inspiration	$ 4,130,508	2.20
21	Menger	$ 3,442,090	1.50
22	Pipestone	$ 3,709,590	1.77
23	Redland	$ 4,425,544	2.50
24	Sasse**	$ 2,300,780	2.00
25	Waterwood 072ET1	$ 1,302,328	0.50
26	Waterwood 072HT1	$ 4,037	0.00
27	Clayton 021ET1	$ 260,466	0.10
28	Hutchins 012HT1	$ 676,907	0.50
29	Rhoda 014ET1	$ 3,267,281	3.01
30	Vestal 013ET1	$ 3,442,267	1.50
31	S. General McMullen 011ET1	$ 651,164	0.25
32	Hickory Hollow 074ET1	$ 1,302,328	0.50
33	Hickory Hollow 074HT1	$ 6,056	0.00
34	Palo Alto 045ET1	$ 1,302,328	0.50
35	Cagnon Road 041ET1	$ 2,950,363	1.00
36	Meadow Wood Acres 169HT1	$ 13,457	0.01
37	New World 038 ET1	$ 3,933,817	2.00
38	New World 038 ET2	$ 2,950,363	1.00
39	Sea World Tank 034ET1	$ 3,933,817	2.00
40	Marbach 030HT1	$ 134,574	0.10
41	Far West 174HT1	$ 269,148	0.20
42	TRP 178ET1	$ 4,425,544	2.50
43	TRP 039HT1	$ 269,148	0.20
44	TRP 184ET1	$ 3,933,817	2.00
45	Amhurst 027 ET1	$ 2,704,499	0.75
46	West Ave. 028ET1	$ 1,302,328	0.50
47	West View 125HT1	$ 67,287	0.05
48	**Total**	**$121,108,831**	**60.22**

Table A-9: Existing Infrastructure, Water Delivery - System Development, Ground Storage Tanks in High Elevation Service Area

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
1	Hills	$694,575	0.50
2	IH 10**	807,096	0.58
3	Shields**	1,444,716	1.04
4	Dominion	69,458	0.05
5	Walden Heights	69,458	0.05
6	Helotes Park #3**	31,950	0.02
7	Helotes Park, No.2**	0	0.00
8	Salado**	0	0.00
9	Cedar Creek	45,842	0.03
10	Ranch Town #2	0	0.00
11	Sundance	61,123	0.04
12	Concept Therapy Institute #1	13,892	0.01
13	Concept Therapy Institute #2	13,892	0.01
14	Concept Therapy Institute #3	13,892	0.01
15	S&S Hills #1	28,575	0.02
16	S&S Hills #2	29,172	0.02
17	Village Green	215,318	0.16
18	Woods of Fair Oaks	134,748	0.10
19	Woods of Fair Oaks	134,748	0.10
20	Hidden Springs	18,059	0.01
21	199 GT1 (Anaqua Springs)	2,778	0.00
22	179GT1 (Anaqua Springs)	68,763	0.05
23	179GT2 (Anaqua Springs)	68,763	0.05
24	179GT3 (Anaqua Springs)	138,915	0.10
25	179GT4 (Anaqua Springs)	138,915	0.10
26	**Total**	**$4,244,645**	**3.06**

Table A-10: Existing Infrastructure, Water Delivery - System Development, Ground Storage Tanks in Middle Elevation Service Area

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
1	Anderson	$6,468,230	7.50
2	Bitters	$4,514,738	5.00
3	Braun**	$0	0.00
4	Micron	$3,209,805	3.33
5	Sunset**	$0	0.00
6	Wurzbach	$6,468,230	7.50
7	Culebra	$1,041,863	0.75
8	Hills**	$0	0.00
9	Inwood	$1,545,429	1.20
10	Sunset**	$1,972,593	1.42
11	Turtle Creek No.2 N	$694,575	0.50
12	Turtle Creek No.3 N	$694,575	0.50
13	University	$4,514,738	5.00
14	Naco	$1,639,197	1.32
15	Redland	$0	0.00
16	Sasse**	$0	0.00
17	Encino	$694,575	0.50
18	Evans	$1,404,778	1.02
19	Evans	$750,141	0.54
20	Marshall**	$0	0.00
21	Rabbit Nook GT1 (Elm Valley)	$13,892	0.01
22	Rabbit Nook GT2 (Elm Valley)	$69,458	0.05
23	Ray Lieck GT1 (Elm Valley)	$9,029	0.01
24	Ray Lieck GT2 (Elm Valley)	$9,029	0.01
25	Ray Lieck GT3 (Elm Valley)	$9,029	0.01
26	Ray Lieck GT4 (Elm Valley)	$9,029	0.01
27	Ray Lieck GT5 (Elm Valley)	$9,029	0.01
28	Ray Lieck GT6 (Elm Valley)	$69,458	0.05
29	Citicorp GT1	$27,783	0.02
30	Citicorp GT2	$27,783	0.02
31	Stevens Ranch	$1,389,150	1.00
32	Texas Research Park GT1	$347,288	0.25
33	Texas Research Park GT2	$1,389,150	1.00
34	Bestway (Poco Pass)	$104,186	0.08
35	Dym Tract	$347,288	0.25
36	Enchanted Eve	$636,231	0.46
37	Enchanted Sun	$143,082	0.10
38	Geronimo Loop GT1 (Geronimo Forest)	$62,512	0.05
39	Geronimo Loop GT2 (Geronimo Forest)	$62,512	0.05
40	Wild Turkey GT1	$694,575	0.50
41	Wild Turkey GT2	$2,170,547	2.00
42	Loop 1604	$2,170,547	2.00
43	Loop 1604	$2,170,547	2.00
44	**Total**	**$47,554,598**	**45.99**

Table A-11: Existing Infrastructure, Water Delivery - System Development, Ground Storage Tanks in Low Elevation Service Area

Line No.	Asset Description	Historic Project Cost ($)	Total Existing Capacity (MGD)
1	34th Street	$2,375,273	2.26
2	Artesia	$4,514,738	5.00
3	Market	$1,222,452	0.88
4	Mission	$4,514,738	5.00
5	34th Street	$2,747,218	2.74
6	Basin	$4,514,738	5.00
7	Marbach	$4,514,738	5.00
8	Randolph	$3,201,991	3.32
9	Seale Road (2 tanks)	$5,296,134	6.00
10	Maltsberger	$6,468,230	7.50
11	Micron	$1,912,686	1.67
12	Naco	$2,522,175	2.45
13	Pipers Meadow	$69,458	0.05
14	Pipestone	$1,567,308	1.23
15	Wurzbach	$6,468,230	7.50
16	Naco	$3,514,550	3.72
17	Randolph	$2,333,772	1.68
18	Golden	$10,375,214	12.50
19	King	$694,575	0.50
20	La Rosa	$2,951,944	3.00
21	Linden	$2,326,826	2.20
22	Rhoda	$2,170,547	2.00
23	Zarzamora	$2,170,547	2.00
24	SW 21st St.	$1,389,150	1.00
25	Hickory Hollow GT1	$27,783	0.02
26	Hickory Hollow GT2	$27,783	0.02
27	Hickory Hollow GT3	$41,675	0.03
28	Hickory Hollow GT4	$41,675	0.03
29	Hickory Hollow GT5	$41,675	0.03
30	Hickory Hollow GT6	$41,675	0.03
31	Memorial Lane	$416,745	0.30
32	Silver Mountain	$87,516	0.06
33	Somerset	$416,745	0.30
34	Staggs Ranch	$1,389,150	1.00
35	Cagnon Road	$1,389,150	1.00
36	Calle Briseno (Meadow Wood Acres) (169GT1)	$55,566	0.04
37	Calle Briseno (Meadow Wood Acres) (169GT2)	$14,586	0.01
38	Chaparral (097GT1)	$90,295	0.07
39	Country Oaks	$55,566	0.04
40	Far West	$694,575	0.50
41	Little Joe Trail	$69,458	0.05
42	Reyes Ln. (Mountain Laurel)	$83,349	0.06
43	Tamaron	$97,241	0.07
44	Marbach Rd.	$388,962	0.28
45	Donella GT1	$347,288	0.25
46	Donella GT2	$347,288	0.25
47	Tower	$176,005	0.13
48	Lemonwood 023GT1	$1,389,150	1.00
49	CR (Westview)	$231,988	0.17
50	**Total**	**$87,800,114**	**89.93**

Appendix B

FUTURE CIP

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
1	2033	PZ2-01 - Along PL from E Chavaneaux to SE Loop 410 Access Rd (16 Inch Dia 260.739632 LF	$38,245
2	2001	PZ2-02 - Along Presa St from existing 8-inch to Graf Rd (16 Inch Dia 1943.945237 LF	$254,605
3	2034	PZ2-03 - Along PL from Espada Rd Northeast to Villamain Rd (16 Inch Dia 4639.492731 LF	$461,131
4	2035	PZ2-04 - Along Higdon from S W.W. White Road to US Hwy 181 S (12 Inch Dia 9313.987542 LF	$1,750,549
5	2036	PZ2-05 - Along US Hwy 181 S from Donop Rd heading southeast to W Laguna Rd (12 Inch Dia 1661.703639 LF	$182,485
6	2002	PZ3-01 - Along S Flores from W Malone to Octavia Pl (24 Inch Dia 2288.151454 LF	$571,496
7	2004	PZ3-02 - Along Mission Rd from E Theo to Steves Ave (24 Inch Dia 1554.346239 LF	$254,605
8	2005	PZ3-02 - Along Steves Ave from Probandt to Gevers St (24 Inch Dia 13529.726705 LF	$2,281,614
9	2003	PZ3-02 - Along Steves Ave from Probandt to IH-37 (16 Inch Dia 28.566339 LF	$5,464
10	2006	PZ3-03 - Along Dietrich Rd and Eddie Rd from Dietrich tank (16 Inch Dia 2919.20002 LF	$419,607
11	2007	PZ3-03 - Along Seale, Springfield Rd and Dietrich Rd to Dietrich Tank (16 Inch Dia 2828.161215 LF	$87,418
12	2039	PZ3-04 - Along Kiefer Rd extended from IH-10 E to Lancer Blvd (24 Inch Dia 4787.033311 LF	$1,068,687
13	2037	PZ3-04 - Along Lancer Blvd from N Foster Rd to Kiefer Rd (12 Inch Dia 4071.133738 LF	$445,833
14	2038	PZ3-04 - Along N Foster from IH-10 to Lancer Blvd (16 Inch Dia 2639.247246 LF	$9,835
15	2043	PZ3-08 - Along PL from S Foster Rd to Tierra Nueva (12 Inch Dia 1614.582903 LF	$177,022
16	2044	PZ3-09 - Along Kirkner Rd and Zigmont Rd from US Hwy 87 E to Real Rd (12 Inch Dia 9219.52475 LF	$1,008,587
17	2045	PZ3-09 - Along Real Rd east of Bonet and north along Zigmont Rd (12 Inch Dia 4151.958505 LF	$454,574
18	2046	PZ3-09 - Along Real Rd from existing pipe to Zigmont Rd (12 Inch Dia 5218.514555 LF	$571,496
19	2047	PZ3-09 - Along Zigmont Rd from Real Rd to FM 1346 (12 Inch Dia 1456.129664 LF	$159,538
20	2048	PZ3-16 - Along IH-10 E from Loop 410 to Dietrich Rd (24 Inch Dia 4094.751441 LF	$1,039,183
21	2049	PZ3-16 - Along IH-10 from Dietrich Dr to west of N Foster Rd (24 Inch Dia 3719.433246 LF	$944,116
22		PZ3-17 - Along Foster Meadows across US Hwy 87	$32,782
23		PZ3-18 - Along IH10 from proposed 16-inch main crossing IH10 to 16-inch main at FM 1516	$470,037
24		PZ3-19 - Along FM1356 from S Foster to the end of th CCN	$3,279,328

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
25		PZ3-20 - FM 1516 from FM 1346 to Hwy 87 E	$1,380,046
26	2010	PZ4-01 - Across SW Loop 410 at Vista West Dr (24 Inch Dia 1124.289593 LF	$285,202
27	2051	PZ4-01 - Along Hwy 90 at intersection of W Military Dr to Pinn Rd (24 Inch Dia 665.53455 LF	$218,545
28	2052	PZ4-01 - Along SH 151 from Cable Ranch Rd to Vista West Dr (24 Inch Dia 2301.588493 LF	$584,609
29	2053	PZ4-01 - Along SH 151 from Ingram to Cable Ranch Rd (24 Inch Dia 3819.124721 LF	$970,342
30		PZ4-01 - Along SH 151 from SW Loop 410 to W Military Dr	$1,423,823
31	2050	PZ4-01 - Along SW Loop 410 from Lakeside Pkwy to Vista West Dr (12 Inch Dia 283.046472 LF	$36,060
32	2009	PZ4-01 - Along W Military Dr from SH 151 to W Commerce St (16 Inch Dia 1489.531532 LF	$243,678
33	2054	PZ4-01 - From Richland Hills Tank to Richland Hills Dr (24 Inch Dia 270.248303 LF	$88,511
34	2055	PZ4-02 - Along Covel from ray Ellison Blvd to Unnamed St in Medina An (16 Inch Dia 6438.60758 LF	$841,400
35	2056	PZ4-02 - Along Covel Rd from Old Pearsall Rd to Unnamed St in Medina Annex (16 Inch Dia 8887.568344 LF	$1,162,662
36	2059	PZ4-02 - Along Ray Ellison Blvd from Covel to Loop 410 (16 Inch Dia 2533.77273 LF	$364,971
37		PZ4-04 - Along Loop 410 from Old Pearsall Rd to Quintana Rd	$637,060
38	2012	PZ4-05 - Along Five Palms, Quintana Rd and PLs heading north to Farr Dr (16 Inch Dia 1931.108548 LF	$211,989
39	2013	PZ4-07 - Along Medina Base Rd from Heathers Park to Palm Valley Dr (12 Inch Dia 863.789231 LF	$108,180
40	2018	PZ4-09 - Along PL from Marbach Rd extended (16 Inch Dia 4672.933319 LF	$1,059,945
41	2019	PZ4-10 - Along SW Loop 410 from SH 151 to Timbercreek Dr (16 Inch Dia 1551.325407 LF	$253,513
42	2021	PZ4-13 - Along Blanco Rd and Jackson Keller from Arroyo Vista to Ave Maria (16 Inch Dia 976.228505 LF	$216,360
43	2024	PZ4-13 - Along Blanco Rd and Jackson Keller from Arroyo Vista to E Montana Ave (16 Inch Dia 2171.752999 LF	$480,800
44	2026	PZ4-15 - At intersection of Gillespie and Holland (24 Inch Dia 75.034869 LF	$13,113
45	2027	PZ4-16 - From Hildebrand tank, along Hildebrand and Devine Rd (16 Inch Dia 666.757537 LF	$111,458
46	2028	PZ4-17 - Along Broadway from Ridgecrest Dr to W Lawndale Dr (16 Inch Dia 636.134047 LF	$111,458
47	2029	PZ4-17 - Along Sunset and Rockhill Dr connecting PZ 4 piping across PZ 5A service area (16 Inch Dia 3427.403224 LF	$757,260
48	2062	PZ4-20 - Along PLs from Ackerman Rd heading east (16 Inch Dia 3209.90948 LF	$580,238

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
49	2063	PZ4-21 - Along IH-10 from N Foster heading East (16 Inch Dia 3876.891325 LF	$633,782
50	2064	PZ4-21 - Along N Foster Rd across IH-10 (24 Inch Dia 726.019378 LF	$184,671
51	2065	PZ4-22 - Along PL from IH-10 E to Binz Engleman Rd (16 Inch Dia 6211.665659 LF	$892,758
52	2030	PZ4-23 - Along SW 36th from Old US Hwy 90 W to Castroville Rd (16 Inch Dia 5548.138701 LF	$906,963
53		PZ4-02 - Along Old Pearsall Rd, Nelson Rd and Loop 1604 from Pvt Rd to Hwy 90	$5,119,426
54		PZ4-14 - Along McCullough Ave from Basse to Hildebrand	$2,642,214
55		PZ4-15 - At intersection of Annie and Gillespie	$13,113
56	2066	PZ5-03 - Along NE Loop 410 Access Rd connecting two existing pipes across Jones Maltsberger Rd (12 Inch Dia	$40,431
57	2067	PZ5-04 - Along Hwy 281 near Embassy Oaks connecting two existing 8-in pipes (12 Inch Dia 88.425929 LF	$12,020
58	2031	PZ5-05 - At intersection of E Montana Ave and Oblate (24 Inch Dia 18.593486 LF	$3,278
59	2068	PZ5-06 - Along Starcrest Dr and Wuzbach Pkwy to Buckhorn (12 Inch Dia 3964.438194 LF	$492,820
60	2069	PZ5-10 - From Tumblewood Trl Tank to Jones Maltsberger Rd (24 Inch Dia 106.113445 LF	$28,411
61	2032	PZ5A-01 - Along New Braunfels Ave from Robinhood Pl heading southeast (12 Inch Dia 755.023473 LF	$132,220
62		PZ5A-01 - At intersection of Bartell Dr and Norttingham Dr connecting	$6,556
63	2070	PZ6-01 - Along Eagle Crest, Killingsworth and Wendt Way from Oehler to O'Connor (12 Inch Dia 7084.716964 LF	$1,234,782
64	2071	PZ6-01 - Along Forest Bluff Across O'Connor (12 Inch Dia 343.248122 LF	$60,100
65	2072	PZ6-02 - Along Foote Path and Averty from O'Connor to Forest Stream (12 Inch Dia 3024.700898 LF	$528,880
66	2073	PZ6-03 - Along Bludau-Bishop from Randolph to across I-35 (12 Inch Dia 1195.766459 LF	$208,711
67	2074	PZ6-04 - Along Crosswinds Way and O'Connor from existing pipes (12 Inch Dia 716.863636 LF	$125,664
68	2075	PZ6-04 - Along O'Connor across IH-35 (12-inch)	$379,176
69	2076	PZ7-01 - Along Talley Rd from Ray Lieck to Talley Rd PRV (16 Inch Dia 2881.26195 LF	$560,569
70	2077	PZ7-01 - Along Wiseman Blvd from Loop 1604 to Talley Rd (16 Inch Dia 5169.306048 LF	$1,004,216
71	2079	PZ7-01 - Along Wiseman Blvd from Loop 1604 to Talley Rd (24 Inch Dia 10248.964452 LF	$2,954,734
72	2080	PZ7-08 - Along Woller Rd connecting two proposed 30-inch pipes (12-inch)	$3,278

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
73	2081	PZ7-09 - Along Country View Ln from Rochelle Rd to existing pipe (12 Inch Dia 403.785881 LF	$44,802
74	2085	PZ7-09 - Along Drainage parallel to Western Sun from Prue Rd to Terra Rye (24 Inch Dia 3237.762454 LF	$657,822
75	2086	PZ7-09 - Along Drainage parallel to Western Sun from Western Skies to Prue Rd (24 Inch Dia 1921.549248 LF	$390,104
76	2082	PZ7-09 - Along Pembroke from Rochelle Rd to existing pipe (12 Inch Dia 942.751736 LF	$103,809
77	2083	PZ7-09 - Along PLs from Pembroke to Western Skies (12 Inch Dia 227.825222 LF	$25,133
78	2087	PZ7-09 - Along PLs from Pembroke to Western Skies (24 Inch Dia 565.616228 LF	$115,829
79	2088	PZ7-09 - Along Rochelle Rd from Stonykirk Rd to Pembroke (24 Inch Dia 1025.92382 LF	$230,565
80	2084	PZ7-09 - Along Stonykirk Rd connecting existing pipes (12 Inch Dia 2366.518288 LF	$258,976
81	2089	PZ7-13 - Along Hollyhock Rd from Oakland Rd to existing pipe on Holly (12 Inch Dia 1813.459759 LF	$278,645
82	2090	PZ7-13 - Along Lockhill Rd from Babcock Rd to existing pipe on Lockhill (12 Inch Dia 2746.890782 LF	$421,793
83	2091	PZ7-13 - Along Oackland from Prue Rd to Hollyhock Rd (12 Inch Dia 2338.748864 LF	$359,507
84	2092	PZ7-13 - Along PL from Spring Time Dr to Heather Vw (12 Inch Dia 2650.957913 LF	$406,494
85	2093	PZ7-14 - Along Fredricksburg Rd from Prue Rd to Huebner Rd (12-inch)	$72,120
86	2094	PZ7-14 - Along Huebner Rd from Southwell to Vance Jackson (24 Inch Dia 8405.904338 LF	$2,422,576
87	2095	PZ7-15 - Along DeZavala and Black Oak from DeZavala Tank to PZ 7 piping (16-inch)	$649,080
88	2096	PZ7-15 - Along Huebner Rd from Lockhill-Selma to Cinnamon Oak (16-inch)	$254,605
89	2097	PZ7-15 - Along Huebner Rd from Lockhill-Selma towards Sleepy Hollow (16-inch)	$525,602
90	2098	PZ7-15 - Along Lockhill-Selma from DeZavala to Huebner Rd (16-inch)	$1,043,554
91	2099	PZ7-15 - Along Lockhill-Selma from Huebner Rd to Orsinger Ln (16-inch)	$325,633
92		PZ7-19 - Along Voelcker from Blanco Rd to Mill Creek Dr (12-inch)	$310,334
93	2100	PZ7-19 - Along Voelcker from Blanco Rd to Mill Creek Dr (16 Inch Dia 6424.530453 LF	$856,698
94	2101	PZ7-20 - Along Churchill Estates from Blanco to Huebner (16 Inch Dia 7823.882597 LF	$1,727,601
95	2102	PZ7-23 - Along entrance to Encino Park Pump Station from Hwy 281 (16 Inch Dia 862.433839 LF	$168,280
96		PZ7-22 - Along Town Oak Dr from Parhaven Dr heading east	$43,709

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
97		PZ7-26 - Micron to Anderson tank	$3,278,181
98	2103	PZ8-01 - Along Del Webb Blvd from Devil's River to La Villita Way (12-inch)	$351,858
99	2105	PZ8-01 - Along PL from La Villita Way to Del Webb Blvd (12-inch)	$395,567
100	2104	PZ8-01 - Along La Villita Way & Alamo Ranch Subdivision PL from Alamo (16 Inch Dia 4148.339681 LF	$806,433
101	2102	PZ8-01 - Along Alamo Ranch Pkwy extended to PL (16-inch)	$80,862
102	2106	PZ8-01 - Along PL from Galm Rd to Del Webb Blvd (24 Inch Dia 3163.05741 LF	$829,380
103	2107	PZ8-02 - Along Painted Daisy Extended to Roft Rd (12 Inch Dia 721.30124 LF	$79,769
104	2108	PZ8-02 - Along Palmetto Way towards Painted Daisy (12 Inch Dia 931.657734 LF	$115,829
105	2109	PZ8-03 - Along PL to Old FM 471 W (12-inch)	$319,076
106	2110	PZ8-05 - Along FM 1560 N from Doheny to Braun Rd (12-inch)	$207,618
107	2111	PZ8-05 - Along Galm Rd from Culebra Rd to Shaenfield (12-inch)	$1,222,762
108	2112	PZ8-05 - Along PLs from Galm Rd to Braun Rd - Rock (12-inch)	$1,127,694
109	2113	PZ8-05 - Along PLs from Galm Rd to Braun Rd - Soil (12-inch)	$630,503
110	2114	PZ8-09 - Discharge Pipe from Turtle Creek PZ 8 (24 Inch Dia 192.030297 LF	$51,358
111	2115	PZ8-10 - Along UTSA Blvd from Valero Way to UTEX Blvd (12 Inch Dia 1658.403061 LF	$254,605
112	2116	PZ8-10 - Through Open Area from Chasethorn Dr to De Zavala Rd (12 Inch Dia 2852.107664 LF	$397,753
113	2117	PZ8-10 - Along IH-10 across Loop 1604 (24 Inch Dia 545.814265 LF	$179,207
114	2118	PZ8-10 - Along IH-10 from Loop 1604 to La Cantera Pkwy (24 Inch Dia 980.459492 LF	$1,553,858
115		PZ8-10 - Along La Cantera Pkwy across IH-10 (24 inch)	$191,227
116	2119	PZ8-10 - Along Loop 1604 from Babcock Rd to Regency (24 Inch Dia 7219.51416 LF	$2,364,661
117	2120	PZ8-10 - Along Loop 1604 from Regency to IH-10 (24 Inch Dia 2268.03205 LF	$743,054
118	2121	PZ8-10 - Along Loop 1604 from Tradesman to Lockhill-Selma (24 Inch Dia 2381.149251 LF	$780,207
119	2122	PZ8-10 - Along UTSA Blvd across IH-10 (24 Inch Dia 519.646914 LF	$170,465
120	2125	PZ8-11 - Across Lockhill Selma for PZ change from 7 to 8 (12 Inch Dia 109.043321 LF	$17,484

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
121	2126	PZ8-11 - At intersection for PZ 7 to PZ 8 change (12 Inch Dia 23.433638 LF	$4,371
122	2127	PZ8-12 - PZ Change from PZ 11F to PZ 8 (12-inch)	$67,749
123	2128	PZ9-01 - Along Judson Rd across IH-35 to existing 8-inch on Judson Rd (12 Inch Dia 1294.463637 LF	$226,194
124	2129	PZ9-01 - Along Toepperwein Rd from I-35 to Jud-Toepper Way (12 Inch Dia 3432.172255 LF	$598,814
125	2130	PZ9-03 - Along E Evans Rd from FM 2252 to Wagon Rd (16 Inch Dia 1747.740218 LF	$228,380
126	2131	PZ9-03 - Along FM 2252 from Dolentero to E Evans Rd (16 Inch Dia 6260.708489 LF	$818,453
127	2132	PZ9-05 - PLs through PZ 9 open area from Bulverde Rd to Encino Rio (24 Inch Dia 15296.733682 LF	$4,008,123
128	2133	PZ9-06 - Along Encino Cliff from Encino Royale to Encino Crown (12 Inch Dia 2656.078244 LF	$463,316
129	2135	PZ9-07 - Along Encino Rio from Encino Ledge to Encino Pass (24 Inch Dia 1506.398365 LF	$493,913
130	2136	PZ9-07 - Along Encino Rio from Encino Ledge to Evans Rd (24 Inch Dia 1272.638564 LF	$417,422
131	2134	PZ9-07 - Along Encino Rio from Encino Pass to Evans Rd (12 Inch Dia 2138.767261 LF	$372,620
132	2137	PZ9-07 - Along Encino Rio from Encino Pass to Evans Rd (24 Inch Dia 1293.720397 LF	$425,071
133		PZ10-03 - Along Hanging Oak from Evans to Rattler Pass (16-inch)	$724,478
134	2142	PZ10-04 - Along Cibolo Vista from Evan Rd heading north towards Wilderness Oak Tank (16-inch)	$3,128,477
135	2140	PZ10-04 - Along PLs from Wilderness Oak Tank heading south (16 Inch Dia 7862.375442 LF	$1,388,856
136	2141	PZ10-04 - Along PLs looped around Wilderness Oak Tank (16 Inch Dia 27388.645503 LF	$4,839,688
137	2143	PZ11-04 - Along Scenic Loop Dr from Marnoch to Mechaca Rd (16 Inch Dia 5772.766191 LF	$1,122,231
138		PZ11-04 - Along Tower from Scenic Loop to existing 8-inch on Tower	$109,273
139	2146	PZ11-05 - Along Frank Madla Dr from Madla to Blue Hills Pass Tanks (16 Inch Dia 150 LF	$27,318
140	2145	PZ11-05 - Along Frank Madla Dr from State Hwy 16 to Blue Hills Tank (16 Inch Dia 3630.481143 LF	$641,431
141	2147	PZ11-05 - Along Frank Madla Rd from Madla Ranch Rd to Blue Hills Pass Tanks (16 Inch Dia 8635.462837 LF	$1,525,447
142	2148	PZ11-10 - Along open area from La Cantera Pkwy to Washita Way (16 Inch Dia 2252.434407 LF	$398,845
143	2152	PZ11-13 - Along Camp Bullis Rd from Old Camp Bullis Rd to Tejas Trail (12-inch)	$319,076
144	2154	PZ11-13 - Along Old Camp Bullis Rd from IH-10 to Talavera Rdg (12-inch)	$199,969

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
145	2155	PZ11-13 - Along Old Camp Bullis Rd from Talavera Rdg to Camp Bullis Rd (12-inch)	$832,658
146	2153	PZ11-13 - Along IH-10 from south of Old Camp Bullis Rd to Camp Bullis (24 Inch Dia 3240.029968 LF	$1,061,038
147	2150	PZ11-13 - Along La Cantera Pkwy connecting two existing 16-inch pipes (16 Inch Dia 232.537049 LF	$45,895
148	2156	PZ11-13 - Along Tejas Trail West to Brenthurst Ln extended (12-inch)	$478,614
149	2157	PZ11-15 - Along IH-10 from Steeple Park to Cielo Vista Dr (24 Inch Dia 1829.578657 LF	$599,907
150	2158	PZ11-16 - Along NW Military from Muir Glen Dr heading north (16 Inch Dia 1354.587868 LF	$239,307
151	2159	PZ11-16 - Along PL from NW Military towards Camp Bullis (12-inch)	$925,540
152		PZ11-17 - PZ Change from PZ 11F to PZ 11 (8-inch)	$6,556
153		PZ11A-01 - Along existing pipe near Borgfeld Tank (16-inch)	$5,464
154		PZ11A-02 - From Borgfeld Tank to existing 6-inch located east of tank (16-inch)	$3,278
155	2160	PZ11A-03 - Along Borgfeld from Hwy 281 heading west (16-inch, Rock)	$732,127
156	2161	PZ11A-03 - Along Borgfeld from Hwy 281 heading west (16-inch, Soil)	$364,971
157		PZ11A-03 - Along Hwy 281 from Borgfeld to E Ramblewood St (16-inch)	$284,109
158	2162	PZ11A-03 - Along Hwy 281 from Trinity Park to Borgfeld (16 Inch Dia 4059.139299 LF	$788,949
159		PZ11A-03 - Along Hwy E Ramblewood St from Hwy 281 to Twin Peak St (16-inch)	$220,731
160	2163	PZ11A-03 - Along PL from Borgfeld Rd to Borgfeld Tank (16 Inch Dia 2135.857002 LF	$378,084
161		PZ11A-03 - Along Twin Peak St from E Ramblewood St to Twin Peak Tank (16-inch)	$285,202
162	2165	PZ11A-04 - Along open area from Forsythia to Loy Morris Dr (16 Inch Dia 4793.474103 LF	$846,863
163	2164	PZ11A-04 - Along Running Springs, Mark Alan and Loy Morris Dr from Smithson Valley to Loy Morris Dr (16 Inch Dia	$3,034,503
164		PZ11B-01 - PZ Change 11 to 11B in Dominion Subdivision (8-inch)	$2,185
165	2166	PZ11K-01 - Borgfeld pump station discharge pipe (16 Inch Dia 53.838539 LF	$9,835
166	2167	PZ11K-02 - Along PL from Indian Springs PZ 11K pump station (16 Inch Dia 2000.343997 LF	$354,044
167	2168	PZ12-01 - Along Anaqua Springs and Cat Springs to Toutant Beauregard Tank (16 Inch Dia 6062.890852 LF	$314,705
168	2170	PZ12-01 - From Toutant Beuaregard Rd to Toutant Beuaregard Tank (16 Inch Dia 3607.638104 LF	$701,531

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
169	2171	PZ12-03 - Along Babcock Rd from Cielo Vista Dr to Scenic Loop Rd (16 Inch Dia 6406.274332 LF	$1,132,065
170	2172	PZ12-05 - Along Boerne Stage Rd from Dos Cerros Dr heading north to County Line (16 Inch Dia 5522.537395 LF	$1,397,598
171	2174	PZ12-08 - Along Cielo Vista Dr from existing pipe towards IH-10 (12-inch)	$828,287
172		PZ12-08 - Along Greywalls Pkwy extended to Ravine Pass extended (12-inch)	$816,267
173	2175	PZ12-10 - Along open land from Caldwell Crest to Fiesta Grande (12 Inch Dia 2518.754177 LF	$351,858
174	2176	PZ12-10 - Along PL from La Sierra Blvd heading north (12 Inch Dia 1415.150188 LF	$197,784
175		PZ12-11 - Cross Mountain Trail (24-inch)	$2,731,818
176	2177	PZ12A-01 - Along Ranch Pkwy heading west from Apacheria (12 Inch Dia 2298.442035 LF	$321,262
177	2178	PZ14-01 - Along PLs from Bexar Tank heading east (16 Inch Dia 11989.211832 LF	$1,177,726
178	2179	PZ14-01 - Along PLs in PZ 14, south of Bexar Tank heading east (12-inch)	$328,145
179		NW-QP - G - Briggs Ranch – Orchard Interconnect (C10-M11) - Design complete	$306,000
180		NW-QP - G - Hwy 90 (C14-M03) - Connect Luckey Ranch and the Johnson Tract	$2,814,461
181		NW-QP - G - U-Bar Ranch Water Main (C10-M18) - Increase system capacity for future growth. PD will design	$3,001,430
182		NW-QP - G - Masterson-Hwy 90 (C10-M10) (Johnson Tract) - Increase system capacity for future growth. Will be oversize	$0
183		SE-AK - G - BexarMet Facility 020 (PZ 830) - Design and build 6,000 LF of 16-inch main from SAWS 48-inch Water	$864,000
184		SE-AK - G - Hunters Forest Main - Design and build 5,000 LF of new 12-inch pipeline.	$914,524
185		SE-AK - G - Hunters Forest Approach Main - Design and build 9,000 LF of new 12-inch approach main.	$1,091,969
186		SE-AK - G - Savannah Heights Approach Main - Extend Savannah Heights transmission main loop through Unit 4 of	$336,000
187		SE-AK - G - Mathis Rd.: Hardy Rd. to Waterwood Pass Approach Main - Design and build 6,700 LF of new 16-inch	$2,009,533
188		SE-AK - G - Copper Ridge Subdivision Pipeline - Design and build 6,300 LF of new 16-inch pipeline.	$579,136
189		SE-AK - G - Hickory Hollow Pipeline - Design and build 5,800 LF of new 12-inch pipeline	$752,907
190		- G - Oversize Water Mains - SAWS participation with developer projects	$500,000
191		PZ11K - G - Borgfield Tank and Transmission - 5.0 MG and 5,900 feet of 16-inch main (PIPELINE ONLY)	$275,000
192		N-AK - Int - Laurel Field Tie-In - DSP Integration	$124,000

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
193		NW-QP - Int - Meadow Wood Acres Integration Mains (C10-M22) - Interconnect Meadowood Acres and the proposed	$1,719,339
194		NW-QP - Int - Sea World Pressure Zone Integration (C10-M01) - Increase system capacity, high service pumping and	$1,417,520
195		NW-QP - Int - Potranco Road (C14-M01) - Provide redundant looped interconnection for Sea World pressure zone - Govt	$0
196		NW-QP - Int - PZ4-02 Old Pearsall to Cagnon - Loop 1604 System Integration Water Main	$1,114,400
197		MP - Int - SAWS PZ-3 Interconnect with DSP PZ 828 - Design and build 1,600 LF of new 12-inch main.	$288,000
198		SE-AK - Int - Interconnect DSP to ASR at Hardy Road - Tie-in to an existing 12” water main located inside the Twin Oaks	$110,000
199		GOVT - Six Mile Creek Phase 2 - Adjust water mains to accommodate drainage improvements	$0
200		GOVT - Other projects -	$330,990
201		GOVT - Potranco Rd: Loop 1604 to HWY 211 - Bexar County is widening Potranco from 1604 to HWY 211 from 2 lanes to 5	$3,244,632
202		GOVT - Elm Forrest LWC - Bexar County is performing drainage improvements along Elm	$654,108
203		GOVT - Borgfeld Road Phase II - Bexar County is widening Borgfeld Road from Timberline to Blanco	$760,287
204		GOVT - Faye Ave: New Laredo Highway to Somerset Road - New pavement section within the existing Right-of-Way and	$0
205		GOVT - Hardy Oak Blvd (Stone Oak Pkwy to Knights Cross Drive) -	$110,000
206		GOVT - Vestal Drive (Commercial to Pleasanton) -	$424,600
207		GOVT - Frio City Road Sidewalks Brazos St to West Malone -	$33,849
208		GOVT - WALZEM ROAD -	$300,000
209		DSP Placeholder	$2,148,763
210		PZ2 - PZ2-03 - 12inch - Along Espada Rd from Camino Coahuilteca heading South	$331,096
211		PZ2 - - 12inch - Along Espada Rd from Dasgue to Camino Coahuilteca	$119,107
212		PZ2 - - 12inch - Along Espada Rd from Old Espada Rd to Desague	$99,438
213		PZ2 - - 12inch - Along Old Espada Rd from Loop 410 to Espada Rd	$55,729
214		PZ2 - PZ2-04 - 12inch - Along Higdon from S W.W. White Road to US Hwy 181 S	$856,698
215		PZ2 - PZ2-06 - 12inch - Along S Presa St across Loop 410 connecting existing pipes	$166,095
216		PZ2 - PZ2-07 - 24inch - Along Lorita from S Flores to Roosevelt Ave	$261,162

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
217		PZ2 - - 24inch - Along Roosevelt Ave from Ashley Rd to E Chavaneaux	$1,117,860
218		PZ3 - PZ3-16 - 24inch - Along IH-10 across Loop 410 between Pop Gunn Dr and Stutts Dr	$390,104
219		PZ3 - PZ3-16 - 24inch - Along IH-10 across Loop 410 between Pop Gunn Dr and Stutts Dr	$497,191
220		PZ3 - - 24inch - Along IH-10 from Dietrich Dr to west of N Foster Rd	$278,645
221		PZ3 - - 24inch - Along NE Loop 410 Access Rd from Stout Dr to E Houston St	$834,843
222		PZ4 - PZ4-13 - Along Burwood from Blanco heading East	$230,565
223		PZ4 - PZ4-13 - Along PL from Ave Maria Dr to Burwood Ln	$108,180
224		PZ4 - PZ4-05 - 12inch - Along Five Palms, Quintana Rd and PLs heading north to Farr Dr	$1,065,409
225		PZ4 - PZ4-13 - 16inch - Along Oblate and South Sea from E Montana to Jackson-Keller Rd	$211,989
226		PZ4 - - 16inch - Along E Montana Ave from Jackson-Keller Ave to Oblate	$616,298
227		PZ5 - PZ5-01 - 12inch - Along Reed Rd connected two disconnected 12-inch pipes	$41,524
228		PZ5 - PZ5-02 - 16inch - Along Evers from Callaghan Rd to Wildflower	$177,022
229		PZ6 - PZ6-06 - 12inch - Along Lookout Rd from O'Connor to Lookout Way	$463,316
230		PZ7 - PZ7-01 - Along Cotton Wood Way extended to Wiseman Blvd	$262,501
231		PZ7 - PZ7-05 - Along Abe Lincoln from Eckhert Rd to Horn Blvd (42-inch, Soil)	$1,553,858
232		PZ7 - PZ7-05 - Along Horn Blvd from Abe Lincoln to Terra Rye	$627,225
233		PZ7 - PZ7-05 - Along Eckhert Rd from Connie Mack to Bandera (42-inch, Soil)	$1,842,338
234		PZ7 - PZ7-03 - 12inch - Along Talley Rd from Ray Lieck to Talley Rd PRV	$4,371
235		PZ7 - - 16inch - Along Talley Rd from Ray Lieck to Talley Rd PRV	$451,296
236		PZ7 - PZ7-04 - 12inch - Along Mystic Park across Bandera Rd to Bresnahan	$21,855
237		PZ7 - - 30inch - Along Bandera Rd from Eckhert to Gilbeau - Cong	$822,823
238		PZ7 - - 30inch - Along Bandera Rd from Eckhert to Gilbeau - Semi	$650,173
239		PZ7 - - 30inch - Along Bandera Rd from Gilbeau to Knights Peak	$464,409
240		PZ7 - - 30inch - Along Bandera Rd from Mystic Park to Braun Rd	$734,313

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
241		PZ7 - - 30inch - Along Bandera Rd from Mystic Park to north of Knights Peak	$51,358
242		PZ7 - PZ7-06 - 12inch - Along Spring Forest from Spring Rain Dr to Spring Mont Dr	$48,080
243		PZ7 - PZ7-07 - 30inch - Along Bamberger Way from Maple Park Dr to Babcock Rd	$344,209
244		PZ7 - - 36inch - Along Babcock Rd from Bamberger Way to Hausman	$1,453,327
245		PZ7 - - 36inch - Along Hausman from Babcock Rd to University Tank	$166,095
246		PZ7 - PZ7-10 - 36inch - Along Braun from FM 1560 to Leslie Rd - Cong	$2,505,623
247		PZ7 - - 36inch - Along Braun from FM 1560 to Leslie Rd - Semi	$666,563
248		PZ7 - - 36inch - Along FM 1560 from Shaenfield to Braun	$2,491,418
249		PZ8 - PZ8-04 - 12inch - Along Culebra Rd from Geronimo Dr to State Hwy 211 N	$342,024
250		PZ8 - - 12inch - Along PL from State Hwy 211 N to Talley Rd	$956,136
251		PZ8 - - 12inch - Along PL to Old FM 471 W	$231,658
252		PZ8 - - 12inch - Along State Hwy 211 N from Old FM 471 W to PL	$909,149
253		PZ8 - PZ8-06 - 12inch - Along PLs from Silver Pointe to Galm Rd	$493,913
254		PZ8 - PZ8-07 - 8inch - Near Helotes tank connecting 8-inch dead end to 30-inch	$10,927
255		PZ8 - - 16inch - Along Cedar Trail across Bandera Rd	$36,060
256		PZ8 - - 24inch - Along Bandera Rd from Cedar Trail to FM 1560	$550,734
257		PZ9 - PZ9-01 - 12inch - Along Toepperwein Rd from xxx to Lookout Rd	$626,133
258		PZ9 - PZ9-02 - 30inch - Along Nacogdoches from O'Connor Rd to Judson Rd - Cong	$1,961,445
259		PZ9 - - inch - Along Nacogdoches from O'Connor Rd to Judson Rd - Semi	$1,588,825
260		PZ9 - PZ9-04 - 12inch - Along PL from Bulverde Ridge Subdivision to Roseheart subdivision	$663,285
261		PZ10 - PZ10-01 - 12inch - Along Stone Oak Pkwy from Ruby Run to Cibolo Canyon	$1,372,465
262		PZ10 - PZ10-03 - 12inch - Along Cibolo View from Hanging Oak to Cul-de-sac	$619,576
263		PZ10 - - 12inch - Along Cibolo Vw from Pandale to end of road	$162,816
264		PZ10 - - 12inch - Along Hanging Oak from Rattler Pass to Cibolo Vw	$615,205

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
265		PZ10 - - 12inch - Along Rattler Pass from Hanging Oak to Rattler Circle Cul-de-sac	$417,422
266		PZ10 - - 16inch - Along Hanging Oak from Evans to Rattler Pass	$665,471
267		PZ10 - PZ10-05 - 24inch - From Batcave PS to Hanging Oak	$7,649
268		PZ10 - - 24inch - Along PLs in PZ 10	$2,867,316
269		PZ11 - PZ11-02 - 12inch - Along Drainage from Chinquapin to Iron Horse Way	$599,907
270		PZ11 - PZ11-03 - 16inch - Along PLs and W Apache Blf from State Hwy 16 to Ranch Town Tank	$1,077,429
271		PZ11 - PZ11-06 - 16inch - Along Madla Ranch Rd from Menchaca Rd to Frank Madla Rd	$852,327
272		PZ11 - - 16inch - Along Scenic Loop Dr from Marnoch to Menchaca Rd	$386,825
273		PZ11 - PZ11-07 - 16inch - Along Camp Bullis from Kyle Seale Pkwy to Moss Brook	$623,947
274		PZ11 - - 16inch - From Camp Bullis Tank to Kyle Seale Pkwy	$31,689
275		PZ11 - PZ11-09 - 12inch - Along La Cantera Pkwy from Seco Crk to existing 16-inch on La Cantera Pkwy	$250,234
276		PZ11 - PZ11-11 - 30inch - From IH-10 pump station discharge to La Cantera Pkwy	$417,422
277		PZ11 - PZ11-12 - 24inch - Along IH-10 and Rim Rd from IH-10 to Worth Pkwy	$635,967
278		PZ11 - - 24inch - Parallel to Job No. 05-1179 from La Cantera Pkwy to Worth Pkwy	$346,394
279		PZ11 - - 24inch - Parallel to Job No. 06-1080 from La Cantera Pkwy to Worth Pkwy	$491,727
280		PZ11 - PZ11-15 - 24inch - Along IH-10 from Steeple Park to Cielo Vista Dr	$796,598
281		PZ11 - - 24inch - Along IH-10 from Stonewall Bend to Steeple Park	$452,389
282		PZ11 - - 24inch - Along IH-10 from Stonewall Hill to Stonewall Bend	$639,245
283		PZ10B - PZ10B-02 - 16inch - Along CR 371 from Hwy 1283 to CR 278	$2,225,885
284		PZ10B - - 16inch - Along FM 1283 from FM 471 to CR 371	$952,858
285		PZ11A - PZ11A-01 - 16inch - Along existing pipe near Borgfeld tank	$1,695,912
286		PZ11L - PZ11L-01 - 16inch - Along Unnamed Street from FM 1283 PS heading north	$1,110,211
287		PZ12East - PZ12-02 - 16inch - From Toutant Beuaregard Rd to Blackbuck Tank	$1,568,063
288		PZ12East - - 16inch - Along PLs from Scenic Loop to Blackbuck Tank - Open	$2,388,701

Table B-1: Water Delivery - Flow CIP

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
289		PZ12East - - inch - Along PLs from Scenic Loop to Blackbuck Tank - Semi	$46,987
290		PZ12East - PZ12-04 - 16inch - Along Scenic Loop Rd from Babcock Rd to Cross Mountain Trl	$1,057,760
291		PZ12West - PZ12A-03 - 16inch - Along State Hwy 16 N from Shadow Canyon Rd to Pvt Rd	$3,010,463
292		PZ12West - - 16inch - Along Park Rd 37 from SH 16 to PZ 14A	$1,197,629
293		PZ14 - PZ14-02 - 16inch - Along Bridlewood Trail from Boerne Stage Rd to Bridle Path	$500,469
294		PZ14 - - 16inch - Along PLs from Bexar Tank heading south	$614,738
295		PZ14 - - 16inch - Along PLs from Bridle Path to Toutant Beauregard Rd	$1,440,690
296		PZ14A - PZ14A-01 - 12inch - Inside PZ 14A	$404,309
297		PZ-11 813 LF 12-main main along Bandera Road from Scenic loop Rd. to Orange Tower	$150,000
200		PZ-8 7,284 LF 12-inch water main along Bandera Road from Circle A Trail to Scenic Loop Rd.	$1,300,000
201	**Total**		**$210,143,873**

Table B-2: Water Delivery - System Development, Well Pumps

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2013)	Added Total Capacity (MGD)
1		Randolph Pump 1- PZ 4	Randolph	$4,429,000	36.29
2		Randolph Pump 2- PZ 6	Randolph	$4,429,000	42.29
3		Artesia Pump 1- PZ 3	Artesia	$3,629,720	30.97
4		Artesia Pump 2- PZ 4	Artesia	$3,629,720	35.97
5		Micron- PZ 5	Micron	$3,437,110	30.28
6		Seale- PZ 4	Seale	$2,742,890	16.85
7		Turtle Creek Pump 1- PZ 8	Turtle Creek	$7,313,515	13.26
8		Turtle Creek Pump 2- PZ 8	Turtle Creek	$7,313,515	23.26
9		Culebra- PZ 8, 10B	Culebra	$5,513,590	6.22
29	**Total**			**$42,438,060**	**235.38**

Table B-3: Water Delivery - System Development, High Service and Booster Pump Stations in High Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2013)	Added Total Capacity (MGD)
1		Adobe Ranch Pump 1	Adobe Ranch PS	$1,289,560	13.00
2		Adobe Ranch Pump 2	Adobe Ranch PS	$1,289,560	19.00
3		Hwy 16 Pump 1	Hwy 16	$439,810	1.00
4		Hwy 16 Pump 2	Hwy 16	$439,810	2.00
5		Hwy 16 Pump 3	Hwy 16	$439,810	3.00
6		Culebra PZ 10B Pump 1	Culebra PZ 10B	$439,810	1.25
7		Culebra PZ 10B Pump 2	Culebra PZ 10B	$439,810	2.50
8		Culebra PZ 10B Pump 3	Culebra PZ 10B	$439,810	3.75
9		Ranch Town Pump 1	Ranch Town PS	$368,740	4.20
10		PZ 11T PS Pump 1	PZ 11T PS	$293,550	0.75
11		PZ 11T PS Pump 2	PZ 11T PS	$293,550	1.50
12		PZ 11T PS Pump 3	PZ 11T PS	$293,550	2.25
13	**Total**			**$6,467,370**	**54.20**

Table B-4: Water Delivery - System Development, High Service and Booster Pump Stations in Middle Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2013)	Added Total Capacity (MGD)
1		Turtle Creek PZ 8 Pump 1	Turtle Creek No 2	$1,758,210	5.00
2		Turtle Creek PZ 8 Pump 2	Turtle Creek No 2	$1,758,210	10.00
3		Turtle Creek PZ 8 Pump 3	Turtle Creek No 2	$1,758,210	15.00
4		Turtle Creek PZ 8 Pump 4	Turtle Creek No 2	$1,758,210	20.00
5		Green Mountain Pump 1	Green Mountain	$293,550	1.00
6		Green Mountain Pump 2	Green Mountain	$293,550	2.00
7		Green Mountain Pump 3	Green Mountain	$293,550	3.00
8		Green Mountain Pump 4	Green Mountain	$293,550	4.00
9		Borgfield Pump 1	Borgfield	$293,550	1.00
10		Borgfield Pump 2	Borgfield	$293,550	2.00
11		Indian Springs	Indian Springs	$147,290	0.50
12		Indian Springs	Indian Springs	$147,290	1.00
13		NW-QP - G - Swann Water Production Facility (C8-WPF2) - imp	Swann WPF	$8,019,006	11.50
14	**Total**			**$17,107,726**	**76.00**

Table B-5: Water Delivery - System Development, High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2013)	Added Total Capacity (MGD)
1		Southeast Pump Station HSP's		$3,053,000	150.00
2		Southeast Pump Station Future Improvents - HSP's		$610,000	100.00
3		Wayland B Pump 1	Wayland	$879,620	4.00
4		Wayland B Pump 2	Wayland	$879,620	8.00
5		Randolph	Randolph	$736,450	31.70
6		MP - I/G - Borgfeld Rd. 1000 gpm pump	Borgfield West	$549,666	1.44
7		Wayland A Pump 1	Wayland	$439,810	2.00
8		Wayland A Pump 2	Wayland	$439,810	4.00
9		SE-AK - G - Savannah Heights Subdivision - Developer project	Savannah Heights	$550,000	1.80
10	**Total**			**$8,137,976**	**302.94**

Table B-6: Water Delivery - System Development, Shared High Service and Booster Pump Stations

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2013)	Added Total Capacity (MGD)
1		Naco	Naco	$2,945,800	57.40
2		University	University	$1,749,970	35.10
3	**Total**			**$4,695,770**	**92.50**

Table B-7: Water Delivery - System Development, Elevated Storage Tanks in High Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2013)	Added Total Capacity (MG)
1	2269	Blue Hills Pass	Hwy 16	$6,338,000	2.50
2	**Total**			**$6,338,000**	**2.50**

Table B-8: Water Delivery - System Development, Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2013)	Added Total Capacity (MG)
1		Cibolo- PZ 7-10 & 11A (UNDER CONSTRUCTION NOW, 2013)	Cibolo	$6,338,000	2.50
2	2274	Batcave	Batcave	$4,388,000	1.50
3	PZ11A-03	Twin Peak	Twin Peak	$6,338,000	2.50
4		DeZavala-PZ 7	DeZavala	$5,363,000	2.00
5		NW-QP - G - Swann Water Production Facility (C8-WPF2) - imp	Swann WPF	$2,500,000	1.25
6	**Total**			**$24,927,000**	**9.75**

Table B-9: Water Delivery - System Development, Elevated Storage Tanks in Low Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2013)	Added Total Capacity (MG)
1		NW-QP - G - U-Bar Ranch EST - Increase system capacity for fi	U Bar Ranch	$6,256,250	3.50
2		SS-AK - G - Verano Development - Design and build a 1.5 MG e	Verano	$5,529,804	1.50
3		Richland Hills (1.5 MG/2017)	Richland Hills EST	$4,794,886	1.50
4		Mission Del Lago- PZ 3-6	Mission Del Lago EST	$3,728,000	1.00
5	2271	Scattered Oaks (aka Jones Maltesberger)	Jones Maltesberger	$3,413,000	1.00
6	2270	Dietrich Rd	Dietrich Rd	$6,338,000	2.50
7	**Total**			**$30,059,940**	**11.00**

Table B-10: Water Delivery - System Development, Ground Storage Tanks in Middle Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2013)	Added Total Capacity (MG)
1		Anderson Ground Tank	Anderson GST	$6,906,250	7.50
2		Turtle Creek 3 (Reservoir)	Turtle Creek	$4,225,000	5.00
3		PZ11K - G - Borgfield Tank/Ground 0.5 MG (TANK ONLY)	Borgfield	$500,000	0.50
4		PZ11 - G - Borgfield Tank/Elevated 4.5 MG (TANK ONLY)	Borgfield	$4,500,000	4.50
5	**Total**			**$16,131,250**	**17.50**

Table B-11: Water Delivery - System Development, Ground Storage Tanks in Low Elevation Service Area

Line No.	Project ID	Project Title	Facility Name	Project Cost Estimate ($ 2013)	Added Total Capacity (MG)
1		G - New World Ground Storage Tank - Replace existing tank wit	New World	$2,762,000	3.00
2		Southeast Pump Station Tank		$5,651,750	5.00
3		SE-AK - G - Savannah Heights Subdivision - Developer project t	Savannah Heights	$150,000	0.11
4	**Total**			**$8,563,750**	**8.11**

Table B-12: Water Delivery - System Development, Transmission Mains Tanks in High Elevation Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
1		PZ10B-01 - Along FM 471 from Culebra PZ 10B PS to FM 1283 (16-inch)	$457,853
2		PZ11-14 - Along Heuermann Rd from Shields PS to Milsa (24-inch)	$2,935,065
3		PZ12A-02 - Along State Hwy 16 N from Shadow Canyon Rd to Pvt Rd (24-inch)	$492,088
4		PZ14-01 - Along PLs from Bexar Tank heading south (16-inch)	$1,855,340
5	**Total**		**$5,740,346**

Table B-13: Water Delivery - System Development, Transmission Mains Tanks in Middle Elevation Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
1		PZ6-08 - Naco PS to Redland PS (PZ 6 to 9) (11319.46443 LF)	$4,044,183
2		PZ7-02 - Along Wurzbach and Bandera from Wurzbach PS to Eckhert Rd (42-inch)	$18,704,208
3		PZ7-21 - Along W Bitters Rd and Old Bitters Rd from Blanco to River Park (16-inch)	$1,736,343
4		PZ8-01 - Along Galm Rd from Talley Rd to PL (16-inch)	$3,499,199
5		PZ8-10 - Along Babcock Rd from Loop 1604 to Hills Tank (30-inch)	$828,287
6		PZ9-03 - Along Evans Rd from Classen Ranch to Wagon Rd (24-inch)	$9,296,921
7		PZ10-03 - Along Evans from Cibolo Canyon to Hanging Oak (16-inch)	$6,038,409
8	**Total**		**$44,147,551**

Table B-14: Water Delivery - System Development, Transmission Mains Tanks in Low Elevation Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)
1		MP - I/G - Borgfeld Rd. 16-inch main	$1,760,000
2		PZ6-04 - Wayland PS to Naco PS (PZ 6 to 6) (5500.891841	$1,490,006
3		SS-AK - G - Verano Development - Design and build a 5,000 LF of 20-inch distribution main.	$2,200,000
4		MP - I/G - Borgfeld Rd. 12-inch main and pump (Borgfeld West)	$1,320,000
5		Southeast Pump Station Mains	$753,000
6	**Total**		**$7,523,006**

Table B-15: Wastewater Treatment

Line No.	Project Title	Project Cost Estimate ($ 2013)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)	Existing Customer Demand	Projected 2020 Customer Demand	Study Period Growth Demand
1	Dos Rios WRC Digester Improvements and Mixing System Enhancements - Pha	10,264,000	78.0%	8,005,920	10.9%	1,120,045	11.1%	1,138,035	171.00	132.72	151.38	18.66
2	Dos Rios WRC Digester Improvements and Mixing System Enhancements - Pha	13,200,000	78.0%	10,296,000	10.9%	1,440,432	11.1%	1,463,568	171.00	132.72	151.38	18.66
3	Dos Rios WRC Dewatering Facility Improvements	13,988,000	73.0%	10,211,240	10.2%	1,426,328	16.8%	2,350,432	183.00	132.72	151.38	18.66
4	WRCs Disinfection System Evaluation and Performance Upgrade	0	78.0%	0	10.9%	0	11.1%	0	171.00	132.72	151.38	18.66
5	Dos Rios WRC Sludge Thickening and Aeration System Improvements	0	78.0%	0	10.9%	0	11.1%	0	171.00	132.72	151.38	18.66
6	Dos Rios WRC Digester Improvements and Mixing System Enhancements - Pha	1,085,641	78.0%	846,800	10.9%	118,469	11.1%	120,372	171.00	132.72	151.38	18.66
7	Dos Rios WRC Re-rating Phase I - Headworks Improvements and Process Enha	6,443,532	78.0%	5,025,955	10.9%	703,142	11.1%	714,435	171.00	132.72	151.38	18.66
8	Dos Rios WRC Re-rating Phase II - Primary Settling Tanks Improvements	30,100,000	5.0%	1,505,000	10.2%	3,069,236	84.8%	25,525,764	183.00	132.72	151.38	18.66
9	Dos Rios WRC Re-rating Phase III - Aeration Tanks and Secondary Settling Tanl	43,150,000	73.0%	31,499,500	10.2%	4,399,918	16.8%	7,250,582	183.00	132.72	151.38	18.66
10	Dos Rios WRC Re-rating Phase V - Effluent Pump Station	39,900,000	73.0%	29,127,000	10.2%	4,068,522	16.8%	6,704,478	183.00	132.72	151.38	18.66
11	Dos Rios WRC Re-rating Phase VI - Tertiary Filters Phase II	16,575,000	73.0%	12,099,750	10.2%	1,690,119	16.8%	2,785,131	183.00	132.72	151.38	18.66
12	MRSO Segment 1	765,042	0.0%	0	18.7%	142,758	81.3%	622,284	100.00	0.00	18.66	18.66
13	Transfer Line	8,589,043	0.0%	0	37.3%	3,205,455	62.7%	5,383,588	50.00	0.00	18.66	18.66
14	MRSO Land Acquisition	0	0.0%	0	37.3%	0	62.7%	0	50.00	0.00	18.66	18.66
15	DR NON-POTABLE WATER SYSTEM UPGRADES	900,000	77.6%	698,528	10.9%	98,211	11.5%	103,261	171.00	132.72	151.38	18.66
16	DR WRC CONTROL SYSTEM UPGRADE	4,255,000	77.6%	3,302,485	10.9%	464,321	11.5%	488,194	171.00	132.72	151.38	18.66
17	DR ELECTRICAL SYSTEM IMPROVEMENTS - PHASE I	12,100,000	77.6%	9,391,319	10.9%	1,320,396	11.5%	1,388,285	171.00	132.72	151.38	18.66
18	DR ELECTRICAL SYSTEM IMPROVEMENTS - PHASE II	8,900,000	77.6%	6,907,665	10.9%	971,200	11.5%	1,021,135	171.00	132.72	151.38	18.66
19	LC WRC CONTROL SYSTEM UPGRADE	1,392,000	77.6%	1,080,390	10.9%	151,900	11.5%	159,710	171.00	132.72	151.38	18.66
20	SC WRC HEADWORKS	3,433,210	77.6%	2,664,659	10.9%	374,644	11.5%	393,907	171.00	132.72	151.38	18.66
21	MC PROCESS PIPING IMPROVEMENTS	100,000	52.0%	52,000	11.9%	11,882	36.1%	36,118	16.00	8.30	10.20	1.90
22	MC PLANT I IMPROVEMENTS	16,000,000	52.0%	8,320,000	11.9%	1,901,054	36.1%	5,778,946	16.00	8.30	10.20	1.90
23	MC WRC CONTROL SYSTEM UPGRADE	2,123,000	52.0%	1,103,960	11.9%	252,246	36.1%	766,794	16.00	8.30	10.20	1.90
24	MC BNR	7,307,000	52.0%	3,799,640	11.9%	868,188	36.1%	2,639,172	16.00	8.30	10.20	1.90
25		**$240,570,468**	**60.7%**	**$145,937,810**	**11.6%**	**$27,798,466**	**27.8%**	**$66,834,191**				

Table B-16: Wastewater Collection - Medio Creek Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)	Existing Customer Demand	Projected 2020 Customer Demand	Study Period Growth Demand
1	4034	27 Far West - Medio Creek - North of US 90	0	40.4%	0	5.9%	0	53.7%	0	10.31	4.16	5.54	1.37
2	4004	FW_34_Medio Creek_Marbach to Medio WRC	3,030,797	49.8%	1,509,410	4.2%	127,218	46.0%	1,394,170	5.69	2.83	2.62	(0.22)
3		M-03 & M-04: Medio Creek	17,705,572	8.6%	1,527,939	18.1%	3,202,674	73.3%	12,974,959	9.91	0.86	7.27	6.41
4		M_17_Medio Creek	1,417,000	8.6%	122,283	18.1%	256,314	73.3%	1,038,403	9.91	0.86	7.27	6.41
5		M_18_Medio Creek	2,097,349	8.6%	180,995	18.1%	379,379	73.3%	1,536,975	9.91	0.86	7.27	6.41
6		M_19_Medio Creek	5,488,555	8.6%	473,646	18.1%	992,798	73.3%	4,022,111	9.91	0.86	7.27	6.41
7	**Total**		**$29,739,273**	**12.8%**	**$3,814,272**	**16.7%**	**$4,958,383**	**70.5%**	**$20,966,618**				

Table B-17: Wastewater Collection - Upper Medina Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)	Existing Customer Demand	Projected 2020 Customer Demand	Study Period Growth Demand
1		MRSO Segment 4	14,686,735	12.8%	1,885,277	28.1%	4,126,004	59.1%	8,675,454	46.80	6.01	27.64	21.64
2		MRSO Segment 5	11,899,315	12.8%	1,527,467	28.1%	3,342,923	59.1%	7,028,925	46.80	6.01	27.64	21.64
3		MRSO Segment 6	0	0.0%	0	0.0%	0	100.0%	0	0.00	0.00	0.00	0.00
4		Lift Station Elimination of LS 199, & LS 200	1,500,000	3.4%	50,889	17.1%	256,824	79.5%	1,192,287	0.80	0.03	0.64	0.61
5		Sous Creek: Hwy 90 to SWBP Segment 6	2,554,200	0.0%	0	15.0%	383,130	85.0%	2,171,070	2.03	0.00	1.72	1.72
6		Sherer Creek:West of Masterson to SWBP Segment 6	1,719,300	0.0%	0	14.5%	249,299	85.5%	1,470,002	4.05	0.00	3.46	3.46
7	**Total**		**$32,359,550**	**10.7%**	**$3,463,634**	**25.8%**	**$8,358,179**	**63.5%**	**$20,537,737**				

Table B-18: Wastewater Collection - Lower Medina Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)	Existing Customer Demand	Projected 2020 Customer Demand	Study Period Growth Demand
1		MRSO Segment 1	1,056,487	9.6%	101,546	22.7%	239,894	67.7%	715,047	69.53	6.68	47.06	40.37
2		MRSO Segment 2	2,082,912	9.6%	200,202	22.7%	472,963	67.7%	1,409,748	69.53	6.68	47.06	40.37
3		MRSO Segment 3	3,804,556	9.6%	365,681	22.7%	863,893	67.7%	2,574,982	69.53	6.68	47.06	40.37
4		MRSO Segment C	14,541,175	0.0%	0	4.0%	584,745	96.0%	13,956,430	17.55	0.00	16.84	16.84
5		Von Ormy Lift Stations & Gravity Mains	4,000,000	2.2%	89,249	12.3%	493,736	85.4%	3,417,015	5.37	0.12	4.59	4.47
6	**Total**		**$25,485,130**	**3.0%**	**$756,677**	**10.4%**	**$2,655,230**	**86.6%**	**$22,073,222**				

Table B-19: Wastewater Collection - Upper Collection Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)	Existing Customer Demand	Projected 2020 Customer Demand	Study Period Growth Demand
1	4011	W-9 Leon Creek: Prue to Ingram	3,709,598	27.8%	1,032,264	16.5%	613,121	55.6%	2,064,214	153.14	42.61	85.21	42.60
2	4012	W_10_Huebner Creek_IH-10 to Huebner Rd.	6,430,039	45.5%	2,925,424	7.7%	494,023	46.8%	3,010,592	10.29	4.68	4.82	0.14
3	4026	E_24 Salado Creek_Loop 1604 to Sir Winston	8,401,278	55.9%	4,693,367	2.1%	172,945	42.1%	3,534,965	16.49	9.21	6.94	(2.27)
4	4028	E_25_Edgewater to Madison Park	992,321	46.4%	460,365	8.3%	82,455	45.3%	449,501	2.54	1.18	1.15	(0.03)
5	4029	E_26_Mud Creek_Walden Oaks to Crooked Stick	2,364,395	31.6%	747,544	17.4%	411,370	51.0%	1,205,481	4.94	1.56	2.52	0.96
6	4032	W-31 IH-10: Boerne Stage to Old Fredericksburg	18,500,000	12.9%	2,394,341	29.7%	5,501,496	57.3%	10,604,163	14.87	1.92	8.52	6.60
7	4042	C_41_Shavano Park_Pond Hill to Bentley Manor	1,360,128	21.5%	291,823	22.5%	306,541	56.0%	761,765	1.76	0.38	0.99	0.61
8	4027	W_44_Leon Creek_Old Fredericksburg to Pembroke	29,451,433	25.1%	7,404,933	18.1%	5,340,740	56.7%	16,705,760	42.59	10.71	24.16	13.45
9	4009	E-4 Bulverde: Evans to Redland	14,608,482	22.8%	3,337,735	12.2%	1,778,615	65.0%	9,492,132	25.10	5.74	16.31	10.58
10	4010	E-17_Panther Springs Creek_Loop 1604 to West Ave	8,694,287	52.8%	4,590,937	2.7%	234,661	44.5%	3,868,689	23.26	12.28	10.35	(1.93)
11		Cibolo Creek Sewershed Flow Diversion Project	8,098,902	31.4%	2,539,881	6.5%	523,269	62.2%	5,035,753	5.93	1.86	3.69	1.83
12		E_54 Cibolo Vista to Bulverde	11,573,849	21.3%	2,466,834	32.3%	3,739,411	46.4%	5,367,604	5.57	1.19	2.58	1.39
13		Sawyer's Ridge	2,525,804	6.3%	158,461	36.8%	930,102	56.9%	1,437,241	5.29	0.33	3.01	2.68
14		E-56 Elm Creek: Park Ranch to Jones Maltsberger	7,442,060	31.5%	2,341,753	2.2%	163,864	66.3%	4,936,443	10.34	3.25	6.86	3.61
15	**Total**		**$124,152,575**	**28.5%**	**$35,385,662**	**16.3%**	**$20,292,612**	**55.2%**	**$68,474,301**				

Table B-20: Wastewater Collection - Middle Collection Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)	Existing Customer Demand	Projected 2020 Customer Demand	Study Period Growth Demand
1	4001	W-1 Leon Creek: Hwy 151 to Hwy 90	32,504,500	33.8%	10,995,238	16.4%	5,337,031	49.8%	16,172,231	214.42	72.53	106.68	34.15
2	4002	W-2 Huebner Creek: Eckhert to Shadow Mist (Phase 1)	10,184,300	49.3%	5,017,718	6.4%	656,374	44.3%	4,510,208	23.13	11.39	10.24	(1.15)
3	4003	C-3 SA Airport: McCullough and Wetmore to Basse	30,800,000	52.4%	16,153,504	2.3%	717,527	45.2%	13,928,969	70.50	36.97	31.88	(5.09)
4	4007	E_7_Beitel Creek_Wurzbach Pkwy to Austin Hwy	16,492,124	53.3%	8,786,966	1.2%	201,597	45.5%	7,503,561	26.76	14.26	12.17	(2.08)
5	4011	W-9 Leon Creek: Prue to Ingram	33,386,384	27.8%	9,290,372	16.5%	5,518,086	55.6%	18,577,926	153.14	42.61	85.21	42.60
6	4012	W_10_Huebner Creek_IH-10 to Huebner Rd.	6,430,039	45.5%	2,925,424	7.7%	494,023	46.8%	3,010,592	10.29	4.68	4.82	0.14
7	4014	C-12 Donaldson Terrace	14,153,777	58.5%	8,276,097	0.0%	3,507	41.5%	5,874,173	11.37	6.65	4.72	(1.93)
8	4016	14 Central - Olmos Creek - Hildebrand and US 281	0	54.0%	0	3.8%	0	42.1%	0	1.41	0.76	0.59	(0.17)
9	4018	E_15_Weidner to IH-35	4,570,742	49.7%	2,272,386	0.9%	41,425	49.4%	2,256,931	4.59	2.28	2.27	(0.02)
10	4019	E_16 Wurzbach: Blanco to Nakoma	14,960,000	55.1%	8,247,288	2.2%	329,057	42.7%	6,383,656	51.09	28.17	21.80	(6.36)
11	4020	C_18_Loop 410 to Shannon Lee	10,681,132	58.6%	6,260,197	0.2%	23,410	41.2%	4,397,525	6.68	3.92	2.75	(1.17)
12	4021	E_19_Salado Creek to Binz-Engleman	43,545,689	48.3%	21,052,943	3.8%	1,649,677	47.9%	20,843,068	195.21	94.38	93.44	(0.94)
13	4022	E_20_Wurzbach_Jones Maltsberger to Nacogdoches	21,498,815	46.2%	9,927,575	4.7%	1,010,081	49.1%	10,561,159	150.02	69.27	73.70	4.42
14	4023	E_21_Mud Creek_Elm Park to Starcrest	10,380,337	40.5%	4,200,530	6.4%	661,955	53.2%	5,517,852	92.79	37.55	49.33	11.78
15	4024	C_22_Balcones Hights_Oaskdale to Babcock	6,612,771	57.9%	3,828,958	0.4%	26,750	41.7%	2,757,063	8.77	5.08	3.66	(1.42)
16	4026	E_24 Salado Creek_Loop 1604 to Sir Winston	8,401,278	55.9%	4,693,367	2.1%	172,945	42.1%	3,534,965	16.49	9.21	6.94	(2.27)
17	4030	E_29_Nacogdoches to Haskin	819,170	58.7%	480,955	0.2%	1,720	41.1%	336,495	4.74	2.78	1.95	(0.84)
18	4037	C_36_Jackson Keller to Montview	4,443,857	56.3%	2,501,323	1.8%	82,180	41.9%	1,860,354	4.23	2.38	1.77	(0.61)
19	4038	C_37_I-10W_Colony Dr. to Tioga	623,601	59.0%	367,826	0.0%	0	41.0%	255,775	1.96	1.16	0.81	(0.35)
20	4010	E-17_Panther Springs Creek_Loop 1604 to West Ave	8,694,287	52.8%	4,590,937	2.7%	234,661	44.5%	3,868,689	23.26	12.28	10.35	(1.93)
21		W-45 Huebner Creek: El Verde to Ingram	13,300,000	49.5%	6,589,031	6.4%	848,550	44.1%	5,862,420	27.59	13.67	12.16	(1.51)
17	**Total**		**$292,482,802**	**46.7%**	**$136,458,635**	**6.2%**	**$18,010,555**	**47.2%**	**$138,013,611**				

Table B-21: Wastewater Collection - Lower Collection Service Area

Line No.	Project ID	Project Title	Project Cost Estimate ($ 2013)	Allocated to Existing Customer Demand (%)	Allocated to Existing Customer Demand ($)	Allocated to Study Period Growth (%)	Allocated to Study Period Growth ($)	Allocated to Post-Study Period Growth (%)	Allocated to Post-Study Period Growth ($)	Total Future Capacity (MGD)	Existing Customer Demand	Projected 2020 Customer Demand	Study Period Growth Demand
1	4005	C-5 - Culebra/Castroville to Laredo & C-28- Zarzamora Creek/San Gabriel to N	20,800,000	56.6%	11,767,428	1.6%	324,116	41.9%	8,708,456	25.40	14.37	10.64	(3.74)
2	4006	W-6: Western Watershed Sewer Relief Line	81,980,000	38.1%	31,227,970	14.4%	11,787,508	47.5%	38,964,522	270.78	103.15	128.70	25.55
3	4008	C_8_Merida_Zarzamora to Brazos	1,473,164	57.1%	841,270	0.7%	10,188	42.2%	621,706	1.20	0.69	0.51	(0.18)
4	4013	C_11_Alzan Creek_Misletoe to Leal	12,298,275	58.6%	7,204,208	0.0%	153	41.4%	5,093,914	16.57	9.70	6.86	(2.84)
5	4015	C-13 Broadway Corridor: Josephine to South Alamo	22,600,000	53.7%	12,138,036	2.2%	486,815	44.1%	9,975,149	98.63	52.97	43.53	(9.44)
6	4025	W_23_Indian Creek_Royal Valley to New Laredo Hwy	13,595,527	49.9%	6,786,451	6.2%	841,442	43.9%	5,967,634	11.49	5.73	5.04	(0.69)
7	4031	C_30_San Joaquin to General McMullen	1,921,447	58.8%	1,129,908	0.0%	561	41.2%	790,978	4.07	2.39	1.68	(0.72)
8	4033	E_32_Seguin to Binz-Engleman (formely E_19)	1,975,270	58.7%	1,160,453	0.2%	3,786	41.1%	811,030	4.23	2.49	1.74	(0.75)
9	4035	C-33 Broadway Corridor: Carnahan to Mulberry (Package A)	35,500,000	52.6%	18,688,712	2.4%	854,475	44.9%	15,956,813	73.37	38.63	32.98	(5.65)
10	4036	C_35_Weir Ave_General McMullen to Cupples	1,155,869	53.4%	617,506	2.6%	29,713	44.0%	508,650	2.06	1.10	0.91	(0.19)
11	4039	C_38_Flores_Weymouth to Frederickburg Rd.	672,628	58.4%	392,601	0.4%	2,628	41.2%	277,399	3.20	1.86	1.32	(0.55)
12	4040	39 West - Leon Creek - New Laredo Hwy and SH 16	0	38.4%	0	13.8%	0	47.8%	0	289.00	111.00	138.04	27.04
13	4041	C_40_Courtland Place to Nueva	7,122,929	56.9%	4,055,010	1.2%	86,220	41.9%	2,981,699	3.19	1.82	1.34	(0.48)
14	4043	C_42_Bethune to Hays	1,675,652	44.3%	742,265	8.4%	141,048	47.3%	792,339	1.99	0.88	0.94	0.06
15	4044	C_43_Loop 410 to Dos Rios WRC	62,791,674	55.7%	34,954,231	1.3%	834,110	43.0%	27,003,332	341.01	189.83	146.65	(43.18)
16		Verano Phase 2 Gravity FM and LS	2,114,905	29.9%	632,300	30.6%	647,974	39.5%	834,631	1.05	0.31	0.42	0.10
20	**Total**		**$267,677,340**	**49.4%**	**$132,338,351**	**6.0%**	**$16,050,737**	**44.6%**	**$119,288,252**				

Appendix C

FINANCING COSTS FOR AVAILABLE EXISTING CAPACITY

Calculation of Financing Cost for Existing Available Facilities

Line No.	Description	Current 2013	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023
1	Total Outstanding Debt	$2,385,457,425										
2	Water Supply Outstanding Debt	$467,059,020										
3	Water Delivery Outstanding Debt	$846,243,056										
4	Total Water Delivery Interest Payment - Revenue Bonds		$34,971,522	$34,165,079	$33,282,104	$32,247,129	$31,144,184	$30,015,477	$28,715,234	$27,230,595	$25,629,949	$24,013,196
5	Total Water Delivery Interest Payment - Series 2003 Rate		$357,696	$345,771	$333,298	$320,254	$306,619	$292,363	$277,461	$261,881	$245,586	$228,540
6	Total Water Delivery Interest Payment - Commercial		$177,939	$213,526	$249,114	$284,702	$427,053	$569,403	$711,754	$854,105	$996,456	$1,138,807
7	Eligible Water Delivery Interest Payment		$2,248,184	$2,198,621	$2,144,178	$2,080,074	$2,018,390	$1,955,034	$1,880,777	$1,794,802	$1,701,437	$1,607,003
8	Water Delivery Financing Charge	$32,756,381	$1,665,947									
9	Wastewater Outstanding Debt	$921,445,187										
10	Total Sewer Delivery Interest Payment - Revenue Bonds		$35,548,471	$34,801,387	$33,996,741	$33,063,441	$32,020,493	$30,993,225	$29,890,217	$28,638,363	$27,289,142	$25,872,167
11	Total Sewer Delivery Interest Payment - Series 2003 Rate		$841,613	$813,554	$784,207	$753,516	$721,435	$687,892	$652,828	$616,171	$577,832	$537,724
12	Total Sewer Delivery Interest Payment - Commercial		$243,350	$292,020	$340,690	$389,360	$584,040	$778,720	$973,399	$1,168,079	$1,362,759	$1,557,439
13	Eligible Sewer Service Interest Payment		$2,871,995	$2,815,041	$2,753,473	$2,681,714	$2,612,696	$2,544,793	$2,470,833	$2,385,078	$2,291,559	$2,192,588
14	Sewer Service Financing Charge	$44,515,617										

Calculation of Financing Cost for Existing Available Facilities

Line No.	Description	11 2024	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034
1	Total Outstanding Debt											
2	Water Supply Outstanding Debt											
3	Water Delivery Outstanding Debt											
4	Total Water Delivery Interest Payment - Revenue Bonds	$22,402,495	$20,700,746	$18,967,888	$19,079,234	$16,930,398	$15,808,513	$14,808,863	$12,706,399	$11,500,200	$10,198,260	$8,482,836
5	Total Water Delivery Interest Payment - Series 2003 Rate	$210,716	$192,085	$172,596	$152,231	$130,940	$108,674	$85,394	$61,052	$35,603	$8,999	$0
6	Total Water Delivery Interest Payment - Commercial	$1,281,158	$1,423,509	$1,423,509	$1,423,509	$1,423,509	$1,423,509	$1,423,509	$1,423,509	$1,423,509	$0	$0
7	Eligible Water Delivery Interest Payment	$1,512,904	$1,412,989	$1,302,037	$1,307,798	$1,170,393	$1,097,950	$1,033,181	$898,520	$820,536	$646,286	$537,102
8	Water Delivery Financing Charge											
9	Wastewater Outstanding Debt											
10	Total Sewer Delivery Interest Payment - Revenue Bonds	$24,431,566	$22,965,228	$21,441,596	$19,633,997	$17,695,283	$16,349,527	$15,458,290	$14,518,090	$13,549,310	$12,520,542	$11,052,109
11	Total Sewer Delivery Interest Payment - Series 2003 Rate	$495,788	$451,951	$406,097	$358,181	$308,086	$255,695	$200,921	$143,647	$83,769	$21,173	$0
12	Total Sewer Delivery Interest Payment - Commercial	$1,752,119	$1,946,799	$1,946,799	$1,946,799	$1,946,799	$1,946,799	$1,946,799	$1,946,799	$1,946,799	$0	$0
13	Eligible Sewer Service Interest Payment	$2,091,623	$1,988,490	$1,865,445	$1,719,976	$1,564,057	$1,454,445	$1,380,280	$1,302,079	$1,221,435	$983,248	$866,465
14	Sewer Service Financing Charge											

Calculation of Financing Cost for Existing Available Facilities

Line No.	Description	22 2035	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044
1	Total Outstanding Debt										
2	Water Supply Outstanding Debt										
3	Water Delivery Outstanding Debt										
4	Total Water Delivery Interest Payment - Revenue Bonds	$6,753,328	$5,399,182	$4,075,533	$2,846,538	$1,702,454	$772,146	$295,424	$79,966	$0	$0
5	Total Water Delivery Interest Payment - Series 2003 Rate	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Total Water Delivery Interest Payment - Commercial	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	Eligible Water Delivery Interest Payment	$427,596	$341,857	$258,048	$180,232	$107,793	$48,889	$18,705	$5,063	$0	$0
8	Water Delivery Financing Charge										
9	Wastewater Outstanding Debt										
10	Total Sewer Delivery Interest Payment - Revenue Bonds	$9,315,656	$7,657,868	$5,937,630	$4,240,782	$2,604,366	$1,147,331	$351,845	$101,122	$0	$0
11	Total Sewer Delivery Interest Payment - Series 2003 Rate	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
12	Total Sewer Delivery Interest Payment - Commercial	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
13	Eligible Sewer Service Interest Payment	$730,331	$600,363	$465,500	$332,470	$204,178	$89,949	$27,584	$7,928	$0	$0
14	Sewer Service Financing Charge										

Appendix D

CREDIT FOR OUTSTANDING DEBT ON AVAILABLE EXISTING CAPACITY

Calculation of Credit for Outstanding Debt on Existing Available CIP

Line No.	Description	Current 2013	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023
1	Debt Service for Existing Revenue Bonds		$141,870,412	$142,614,143	$144,933,921	$147,449,342	$147,321,673	$144,087,321	$149,314,046	$150,168,756	$150,591,890	$140,712,616
2	Total Water Delivery Debt Service Payment -		$60,185,391	$59,300,255	$59,737,841	$61,022,969	$61,048,664	$60,858,196	$64,268,458	$64,507,714	$65,094,446	$55,702,420
3	Water Delivery Service Unit Equivalents (Year-end)	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
4	Water Delivery Debt Service for Fee Eligible Projects per Service Unit Equivalent		$5.53	$5.38	$5.36	$5.40	$5.35	$5.28	$5.51	$5.47	$5.46	$4.66
5	Water Delivery Cumulative Growth in Service Unit Equivalents		9,036	18,190	27,462	36,854	46,368	56,005	65,767	75,655	85,671	95,817
6	Water Delivery Debt Service for Fee-Eligible Projects to be Recovered from New Connections		$49,929	$97,886	$147,079	$199,123	$248,075	$295,689	$362,297	$413,960	$468,001	$446,223
7	Water Delivery Credit Amount	$7,680,076										
8	Water Delivery Growth Rate	1.30%										
9	Total Sewer Delivery Debt Service Payment -		$58,826,507	$57,952,582	$57,875,331	$59,905,519	$59,871,304	$58,039,859	$59,752,661	$59,897,966	$59,939,911	$59,034,893
10	Sewer Service Unit Equivalents	655,623	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212
11	Sewer Debt Service for Fee Eligible Projects per Service Unit Equivalent		$7.32	$7.13	$7.03	$7.18	$7.11	$6.84	$6.96	$6.90	$6.84	$6.68
12	Sewer Cumulative Growth in Service Unit Equivalents		8,984	18,091	27,323	36,682	46,169	55,786	65,534	75,417	85,434	95,589
13	Sewer Debt Service for Fee-Eligible Projects to be Recovered from New Connections		$65,744	$128,958	$192,192	$263,370	$328,086	$381,323	$455,870	$520,715	$584,561	$638,702
14	Sewer Credit Amount	$11,055,401										
15	Sewer Growth Rate	1.37%										

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Calculation of Credit for Outstanding Debt on Existing Available CIP

Line No.	Description	11 2024	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034
1	Debt Service for Existing Revenue Bonds	$139,030,342	$137,553,693	$136,671,929	$138,294,435	$134,990,810	$102,193,714	$99,244,727	$99,231,793	$97,809,103	$97,810,029	$134,398,055
2	Total Water Delivery Debt Service Payment -	$55,774,273	$55,788,257	$54,036,650	$48,588,394	$47,262,134	$37,922,373	$37,915,800	$37,907,503	$37,894,697	$39,978,201	$54,161,195
3	Water Delivery Service Unit Equivalents (Year-end)	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
4	Water Delivery Debt Service for Fee Eligible Projects per Service Unit Equivalent	$4.62	$4.57	$4.38	$3.91	$3.77	$3.03	$3.00	$2.96	$2.92	$2.85	$3.75
5	Water Delivery Cumulative Growth in Service Unit Equivalents	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817
6	Water Delivery Debt Service for Fee-Eligible Projects to be Recovered from New Connections	$442,341	$438,060	$419,792	$375,075	$360,995	$290,506	$286,975	$283,484	$280,009	$273,143	$359,426
7	Water Delivery Credit Amount											
8	Water Delivery Growth Rate											
9	Total Sewer Delivery Debt Service Payment -	$57,180,111	$55,693,197	$56,099,166	$63,809,860	$61,512,158	$36,384,241	$36,381,944	$36,374,413	$36,372,815	$37,837,927	$55,062,550
10	Sewer Service Unit Equivalents	761,506	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533
11	Sewer Debt Service for Fee Eligible Projects per Service Unit Equivalent	$6.43	$6.21	$6.18	$6.86	$6.55	$4.05	$4.01	$3.96	$3.91	$3.59	$4.95
12	Sewer Cumulative Growth in Service Unit Equivalents	95,589	95,589	95,589	95,589	95,589	95,589	95,589	95,589	95,589	95,589	95,589
13	Sewer Debt Service for Fee-Eligible Projects to be Recovered from New Connections	$614,319	$594,069	$590,545	$656,015	$626,370	$387,530	$382,921	$378,344	$373,887	$342,850	$472,921
14	Sewer Credit Amount											
15	Sewer Growth Rate											

Calculation of Credit for Outstanding Debt on Existing Available CIP

Line No.	Description	22 2035	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043
1	Debt Service for Existing Revenue Bonds	$107,286,597	$103,738,894	$103,734,801	$91,547,163	$88,524,703	$65,582,939	$17,329,060	$11,853,344	$0
2	Total Water Delivery Debt Service Payment -	$35,832,628	$32,284,530	$32,285,448	$25,533,739	$25,533,729	$16,596,521	$7,039,024	$4,649,436	$0
3	Water Delivery Service Unit Equivalents (Year-end)	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445
4	Water Delivery Debt Service for Fee Eligible Projects per Service Unit Equivalent	$2.45	$2.18	$2.15	$1.68	$1.66	$1.06	$0.45	$0.29	$0.00
5	Water Delivery Cumulative Growth in Service Unit Equivalents	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817
6	Water Delivery Debt Service for Fee-Eligible Projects to be Recovered from New Connections	$234,753	$208,804	$206,140	$160,946	$158,888	$101,955	$42,689	$27,836	$0
7	Water Delivery Credit Amount									
8	Water Delivery Growth Rate									
9	Total Sewer Delivery Debt Service Payment -	$44,327,976	$44,328,506	$44,323,729	$40,160,549	$37,137,433	$28,385,481	$8,588,246	$6,256,652	$0
10	Sewer Service Unit Equivalents	884,489	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232
11	Sewer Debt Service for Fee Eligible Projects per Service Unit Equivalent	$3.93	$3.88	$3.82	$3.42	$3.12	$2.35	$0.70	$0.50	$0.00
12	Sewer Cumulative Growth in Service Unit Equivalents	95,589	95,589	95,589	95,589	95,589	95,589	95,589	95,589	95,589
13	Sewer Debt Service for Fee-Eligible Projects to be Recovered from New Connections	$375,577	$370,505	$365,457	$326,655	$297,982	$224,680	$67,060	$48,193	$0
14	Sewer Credit Amount									
15	Sewer Growth Rate									

Appendix E

CREDIT FOR PROJECTED PRINCIPAL PAYMENTS ON ELIGIBLE FUTURE CIP

Table E-1: Calculation of Credit for Projected Principal Payments on Eligible Future Water Supply

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$210,193	$430,896	$662,634	$905,959	$1,161,451	$1,429,716	$1,711,396	$2,007,159	$2,317,710	$2,643,789	$2,775,978
5	Debt Service Payment per EDU	$0.30	$0.60	$0.91	$1.23	$1.56	$1.90	$2.24	$2.60	$2.96	$3.33	$3.45
6	Water Supply Cumulative Growth in Service Unit Equivalents	9,036	18,190	27,462	36,854	46,368	56,005	65,767	75,655	85,671	95,817	95,817
7	Water Supply DS Payment for Fee-Eligible Projects to be Recovered from New Connections	$2,688	$10,948	$25,094	$45,453	$72,377	$106,235	$147,421	$196,351	$253,466	$319,233	$330,909
8	**Water Supply Credit Amount**	**$13,748,173**										
9	Study Period Incremental EDUs	95,817										
10	**Water Supply Credit for Future Principal per EDU**	**$143**										

Table E-1: Calculation of Credit for Projected Principal Payments on Eligible Future Water Supply

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$2,914,777	$3,060,516	$3,213,542	$3,374,219	$3,542,930	$3,720,076	$3,906,080	$4,101,384	$4,306,453	$4,521,776	$4,747,865
5	Debt Service Payment per EDU	$3.58	$3.71	$3.85	$3.99	$4.13	$4.28	$4.44	$4.60	$4.77	$4.95	$5.13
6	Water Supply Cumulative Growth in Service Unit Equivalents	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Supply DS Payment for Fee-Eligible Projects to be Recovered from New Connections	$343,012	$355,557	$368,562	$382,042	$396,015	$410,499	$425,513	$441,076	$457,208	$473,930	$491,264
8	**Water Supply Credit Amount**											
9	Study Period Incremental EDUs											
10	**Water Supply Credit for Future Principal per EDU**											

Table E-1: Calculation of Credit for Projected Principal Payments on Eligible Future Water Supply

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$4,985,258	$5,234,521	$5,496,247	$5,771,059	$6,059,612	$6,362,593	$6,680,722	$7,014,758	$6,457,053	$5,871,462	$5,256,592
5	Debt Service Payment per EDU	$5.31	$5.51	$5.71	$5.92	$6.14	$6.36	$6.59	$6.83	$6.21	$5.57	$4.93
6	Water Supply Cumulative Growth in Service Unit Equivalents	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Supply DS Payment for Fee-Eligible Projects to be Recovered from New Connections	$509,232	$527,857	$547,163	$567,176	$587,920	$609,423	$631,713	$654,817	$595,049	$534,166	$472,113
8	**Water Supply Credit Amount**											
9	Study Period Incremental EDUs											
10	**Water Supply Credit for Future Principal per EDU**											

Table E-1: Calculation of Credit for Projected Principal Payments on Eligible Future Water Supply

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$4,610,978	$3,933,084	$3,221,295	$2,473,916	$1,689,169	$865,184
5	Debt Service Payment per EDU	$4.27	$3.59	$2.91	$2.20	$1.48	$0.75
6	Water Supply Cumulative Growth in Service Unit Equivalents	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Supply DS Payment for Fee-Eligible Projects to be Recovered from New Connections	$408,833	$344,268	$278,359	$211,043	$142,256	$71,931
8	**Water Supply Credit Amount**						
9	Study Period Incremental EDUs						
10	**Water Supply Credit for Future Principal per EDU**						

Table E-2: Calculation of Credit for Projected Principal Payments on Eligible Future Distribution Mains

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$38,682	$79,298	$121,946	$166,725	$213,744	$263,113	$314,951	$369,380	$426,532	$486,540	$510,867
5	Debt Service Payment per EDU	$0.05	$0.11	$0.17	$0.23	$0.29	$0.35	$0.41	$0.48	$0.54	$0.61	$0.64
6	Water Delivery Cumulative Growth in Service Unit Equivalents	9,036	18,190	27,462	36,854	46,368	56,005	65,767	75,655	85,671	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Flow Projects to be Recovered from New Connections	$495	$2,015	$4,618	$8,365	$13,320	$19,551	$27,130	$36,135	$46,646	$58,749	$60,898
8	**Water Delivery - Flow Credit Amount for Distribution Mains**	**$2,530,097**										
9	Study Period Incremental EDUs	95,817										
10	**Water Delivery - Flow Credit for Future Principal per EDU for Distribution Mains**	**$26**										

Table E-2: Calculation of Credit for Projected Principal Payments on Eligible Future Distribution Mains

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$536,411	$563,231	$591,393	$620,963	$652,011	$684,611	$718,842	$754,784	$792,523	$832,149	$873,757
5	Debt Service Payment per EDU	$0.66	$0.68	$0.71	$0.73	$0.76	$0.79	$0.82	$0.85	$0.88	$0.91	$0.94
6	Water Delivery Cumulative Growth in Service Unit Equivalents	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Flow Projects to be Recovered from New Connections	$63,125	$65,434	$67,827	$70,308	$72,879	$75,545	$78,308	$81,172	$84,141	$87,218	$90,408
8	**Water Delivery - Flow Credit Amount for Distribution Mains**											
9	Study Period Incremental EDUs											
10	**Water Delivery - Flow Credit for Future Principal per EDU for Distribution Mains**											

Table E-2: Calculation of Credit for Projected Principal Payments on Eligible Future Distribution Mains

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$917,444	$963,317	$1,011,483	$1,062,057	$1,115,160	$1,170,917	$1,229,463	$1,290,937	$1,188,301	$1,080,534	$967,379
5	Debt Service Payment per EDU	$0.98	$1.01	$1.05	$1.09	$1.13	$1.17	$1.21	$1.26	$1.14	$1.03	$0.91
6	Water Delivery Cumulative Growth in Service Unit Equivalents	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Flow Projects to be Recovered from New Connections	$93,715	$97,142	$100,695	$104,378	$108,196	$112,153	$116,255	$120,507	$109,508	$98,303	$86,884
8	**Water Delivery - Flow Credit Amount for Distribution Mains**											
9	Study Period Incremental EDUs											
10	**Water Delivery - Flow Credit for Future Principal per EDU for Distribution Mains**											

Table E-2: Calculation of Credit for Projected Principal Payments on Eligible Future Distribution Mains

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$848,565	$723,811	$592,820	$455,279	$310,860	$159,221
5	Debt Service Payment per EDU	$0.79	$0.66	$0.53	$0.41	$0.27	$0.14
6	Water Delivery Cumulative Growth in Service Unit Equivalents	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Flow Projects to be Recovered from New Connections	$75,238	$63,356	$51,227	$38,839	$26,180	$13,238
8	**Water Delivery - Flow Credit Amount for Distribution Mains**						
9	Study Period Incremental EDUs						
10	**Water Delivery - Flow Credit for Future Principal per EDU for Distribution Mains**						

Table E-3: Calculation of Credit for Projected Principal Payments on Eligible Future Well Pumps

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$18,212	$37,335	$57,414	$78,497	$100,634	$123,878	$148,284	$173,911	$200,818	$229,072	$240,525
5	Debt Service Payment per EDU	$0.03	$0.05	$0.08	$0.11	$0.14	$0.16	$0.19	$0.22	$0.26	$0.29	$0.30
6	Water Delivery Cumulative Growth in Service Unit Equivalents	9,036	18,190	27,462	36,854	46,368	56,005	65,767	75,655	85,671	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Well Pumps Projects to be Recovered from New Connections	$233	$949	$2,174	$3,938	$6,271	$9,205	$12,773	$17,013	$21,962	$27,660	$28,672
8	**Water Delivery - System Development Credit Amount for Well Pumps**	**$1,191,213**										
9	Study Period Incremental EDUs	95,817										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Well Pumps**	**$12**										

Table E-3: Calculation of Credit for Projected Principal Payments on Eligible Future Well Pumps

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$252,551	$265,179	$278,438	$292,360	$306,978	$322,327	$338,443	$355,365	$373,133	$391,790	$411,380
5	Debt Service Payment per EDU	$0.31	$0.32	$0.33	$0.35	$0.36	$0.37	$0.38	$0.40	$0.41	$0.43	$0.44
6	Water Delivery Cumulative Growth in Service Unit Equivalents	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Well Pumps Projects to be Recovered from New Connections	$29,720	$30,807	$31,934	$33,102	$34,313	$35,568	$36,869	$38,217	$39,615	$41,064	$42,566
8	**Water Delivery - System Development Credit Amount for Well Pumps**											
9	Study Period Incremental EDUs											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Well Pumps**											

Table E-3: Calculation of Credit for Projected Principal Payments on Eligible Future Well Pumps

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$431,949	$453,546	$476,223	$500,034	$525,036	$551,288	$578,852	$607,795	$559,473	$508,734	$455,458
5	Debt Service Payment per EDU	$0.46	$0.48	$0.49	$0.51	$0.53	$0.55	$0.57	$0.59	$0.54	$0.48	$0.43
6	Water Delivery Cumulative Growth in Service Unit Equivalents	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Well Pumps Projects to be Recovered from New Connections	$44,123	$45,736	$47,409	$49,143	$50,940	$52,804	$54,735	$56,737	$51,558	$46,283	$40,906
8	**Water Delivery - System Development Credit Amount for Well Pumps**											
9	Study Period Incremental EDUs											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Well Pumps**											

Table E-3: Calculation of Credit for Projected Principal Payments on Eligible Future Well Pumps

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$399,519	$340,783	$279,110	$214,353	$146,358	$74,964
5	Debt Service Payment per EDU	$0.37	$0.31	$0.25	$0.19	$0.13	$0.07
6	Water Delivery Cumulative Growth in Service Unit Equivalents	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Well Pumps Projects to be Recovered from New Connections	$35,423	$29,829	$24,118	$18,286	$12,326	$6,232
8	**Water Delivery - System Development Credit Amount for Well Pumps**						
9	Study Period Incremental EDUs						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Well Pumps**						

Table E-4: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in High Elevation Service Area

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$1,129	$2,314	$3,559	$4,866	$6,238	$7,678	$9,191	$10,780	$12,447	$14,199	$14,909
5	Debt Service Payment per EDU	$0.002	$0.003	$0.005	$0.007	$0.008	$0.010	$0.012	$0.014	$0.016	$0.018	$0.019
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	734	1,496	2,289	3,113	3,969	4,859	5,784	6,745	7,744	8,783	8,783
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$1	$5	$11	$21	$33	$49	$70	$94	$123	$157	$163
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High Elevation Service Area**	**$6,752**										
9	Study Period Incremental EDUs in High Elevation Service Area	8,783										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High Elevation Service Area**	**$1**										

Table E-4: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in High Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$15,654	$16,437	$17,259	$18,121	$19,028	$19,979	$20,978	$22,027	$23,128	$24,285	$25,499
5	Debt Service Payment per EDU	$0.019	$0.020	$0.021	$0.021	$0.022	$0.023	$0.024	$0.025	$0.026	$0.027	$0.028
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$169	$175	$181	$188	$195	$202	$209	$217	$225	$233	$242
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High Elevation Service Area**											
9	Study Period Incremental EDUs in High Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High Elevation Service Area**											

Table E-4: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in High Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$26,774	$28,112	$29,518	$30,994	$32,544	$34,171	$35,879	$37,673	$34,678	$31,533	$28,231
5	Debt Service Payment per EDU	$0.029	$0.030	$0.031	$0.032	$0.033	$0.034	$0.035	$0.037	$0.033	$0.030	$0.026
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$251	$260	$269	$279	$289	$300	$311	$322	$293	$263	$232
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High Elevation Service Area**											
9	Study Period Incremental EDUs in High Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High Elevation Service Area**											

Table E-4: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in High Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$24,764	$21,123	$17,300	$13,286	$9,072	$4,647
5	Debt Service Payment per EDU	$0.023	$0.019	$0.016	$0.012	$0.008	$0.004
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	8,783	8,783	8,783	8,783	8,783	8,783
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$201	$169	$137	$104	$70	$35
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High Elevation Service Area**						
9	Study Period Incremental EDUs in High Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High Elevation Service Area**						

Table E-5: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Middle Elevation Service Area

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$4,365	$8,948	$13,760	$18,813	$24,119	$29,690	$35,539	$41,681	$48,130	$54,901	$57,647
5	Debt Service Payment per EDU	$0.006	$0.012	$0.019	$0.026	$0.032	$0.039	$0.047	$0.054	$0.061	$0.069	$0.072
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	4,161	8,400	12,717	17,115	21,594	26,156	30,802	35,535	40,355	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$26	$105	$241	$438	$700	$1,030	$1,434	$1,915	$2,479	$3,132	$3,246
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Middle Elevation Service Area**	**$134,804**										
9	Study Period Incremental EDUs in Middle Elevation Service Area	45,265										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Middle Elevation Service Area**	**$3**										

Table E-5: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Middle Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$60,529	$63,555	$66,733	$70,070	$73,573	$77,252	$81,114	$85,170	$89,429	$93,900	$98,595
5	Debt Service Payment per EDU	$0.074	$0.077	$0.080	$0.083	$0.086	$0.089	$0.092	$0.096	$0.099	$0.103	$0.106
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$3,365	$3,488	$3,616	$3,748	$3,885	$4,027	$4,174	$4,327	$4,485	$4,649	$4,819
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Middle Elevation Service Area**											

Table E-5: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Middle Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$103,525	$108,701	$114,136	$119,843	$125,835	$132,127	$138,733	$145,670	$134,088	$121,928	$109,159
5	Debt Service Payment per EDU	$0.110	$0.114	$0.119	$0.123	$0.127	$0.132	$0.137	$0.142	$0.129	$0.116	$0.102
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$4,996	$5,178	$5,368	$5,564	$5,768	$5,979	$6,197	$6,424	$5,838	$5,240	$4,632
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Middle Elevation Service Area**											

Table E-5: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Middle Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$95,753	$81,675	$66,894	$51,374	$35,078	$17,967
5	Debt Service Payment per EDU	$0.089	$0.075	$0.060	$0.046	$0.031	$0.016
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	45,265	45,265	45,265	45,265	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$4,011	$3,377	$2,731	$2,070	$1,396	$706
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Middle Elevation Service Area**						
9	Study Period Incremental EDUs in Middle Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Middle Elevation Service Area**						

Table E-6: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$3,236	$6,634	$10,202	$13,948	$17,881	$22,011	$26,348	$30,901	$35,683	$40,703	$42,738
5	Debt Service Payment per EDU	$0.005	$0.009	$0.014	$0.019	$0.024	$0.029	$0.035	$0.040	$0.046	$0.051	$0.053
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	4,014	8,063	12,148	16,268	20,426	24,620	28,851	33,119	37,425	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$18	$75	$171	$309	$491	$719	$996	$1,323	$1,705	$2,142	$2,221
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Low Elevation Service Area**	**$92,303**										
9	Study Period Incremental EDUs in Low Elevation Service Area	41,769										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Low Elevation Service Area**	**$2**										

Table E-6: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$44,875	$47,119	$49,475	$51,948	$54,546	$57,273	$60,137	$63,143	$66,301	$69,616	$73,096
5	Debt Service Payment per EDU	$0.055	$0.057	$0.059	$0.061	$0.064	$0.066	$0.068	$0.071	$0.073	$0.076	$0.079
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$2,302	$2,386	$2,474	$2,564	$2,658	$2,755	$2,856	$2,960	$3,068	$3,181	$3,297
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Low Elevation Service Area**											
9	Study Period Incremental EDUs in Low Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Low Elevation Service Area**											

Table E-6: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$76,751	$80,589	$84,618	$88,849	$93,292	$97,956	$102,854	$107,997	$99,410	$90,395	$80,929
5	Debt Service Payment per EDU	$0.082	$0.085	$0.088	$0.091	$0.094	$0.098	$0.102	$0.105	$0.096	$0.086	$0.076
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$3,418	$3,543	$3,672	$3,807	$3,946	$4,090	$4,240	$4,395	$3,994	$3,585	$3,169
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Low Elevation Service Area**											
9	Study Period Incremental EDUs in Low Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Low Elevation Service Area**											

Table E-6: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$70,989	$60,552	$49,594	$38,088	$26,006	$13,320
5	Debt Service Payment per EDU	$0.066	$0.055	$0.045	$0.034	$0.023	$0.012
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	41,769	41,769	41,769	41,769	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$2,744	$2,311	$1,868	$1,416	$955	$483
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in Low Elevation Service Area**						
9	Study Period Incremental EDUs in Low Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in Low Elevation Service Area**						

Table E-7: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in High/Middle Elevation Service Area

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$5,343	$10,954	$16,845	$23,030	$29,525	$36,344	$43,505	$51,023	$58,918	$67,207	$70,567
5	Debt Service Payment per EDU	$0.008	$0.015	$0.023	$0.031	$0.040	$0.048	$0.057	$0.066	$0.075	$0.085	$0.088
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High/Middle Elevation	4,930	9,959	15,091	20,327	25,669	31,119	36,680	42,353	48,142	54,048	54,048
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$37	$152	$351	$637	$1,019	$1,501	$2,090	$2,794	$3,621	$4,578	$4,745
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High/Middle Elevation Service Area**	**$197,007**										
9	Study Period Incremental EDUs in High/Middle Elevation Service Area	54,048										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High/Middle Elevation Service Area**	**$4**										

Table E-7: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$74,096	$77,800	$81,690	$85,775	$90,064	$94,567	$99,295	$104,260	$109,473	$114,947	$120,694
5	Debt Service Payment per EDU	$0.091	$0.094	$0.098	$0.101	$0.105	$0.109	$0.113	$0.117	$0.121	$0.126	$0.130
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High/Middle Elevation	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$4,918	$5,098	$5,285	$5,478	$5,679	$5,886	$6,101	$6,325	$6,556	$6,796	$7,044
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High/Middle Elevation Service Area**											
9	Study Period Incremental EDUs in High/Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High/Middle Elevation Service Area**											

Table E-7: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$126,729	$133,065	$139,718	$146,704	$154,040	$161,742	$169,829	$178,320	$164,143	$149,257	$133,626
5	Debt Service Payment per EDU	$0.135	$0.140	$0.145	$0.150	$0.156	$0.162	$0.168	$0.174	$0.158	$0.142	$0.125
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High/Middle Elevation	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$7,302	$7,569	$7,846	$8,133	$8,430	$8,739	$9,058	$9,390	$8,533	$7,659	$6,770
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High/Middle Elevation Service Area**											
9	Study Period Incremental EDUs in High/Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High/Middle Elevation Service Area**											

Table E-7: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$117,214	$99,982	$81,888	$62,889	$42,940	$21,994
5	Debt Service Payment per EDU	$0.108	$0.091	$0.074	$0.056	$0.038	$0.019
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High/Middle Elevation	54,048	54,048	54,048	54,048	54,048	54,048
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$5,862	$4,937	$3,991	$3,026	$2,040	$1,031
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in High/Middle Elevation Service Area**						
9	Study Period Incremental EDUs in High/Middle Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in High/Middle Elevation Service Area**						

Table E-8: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in All Service Areas

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$8,203	$16,816	$25,860	$35,356	$45,327	$55,796	$66,789	$78,332	$90,451	$103,177	$108,336
5	Debt Service Payment per EDU	$0.012	$0.023	$0.036	$0.048	$0.061	$0.074	$0.087	$0.101	$0.115	$0.130	$0.135
6	Water Delivery Cumulative Growth in Service Unit Equivalents - All	9,036	18,190	27,462	36,854	46,368	56,005	65,767	75,655	85,671	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$105	$427	$979	$1,774	$2,825	$4,146	$5,753	$7,663	$9,892	$12,458	$12,914
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in All Service Areas**	**$536,538**										
9	Study Period Incremental EDUs in All Service Areas	95,817										
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in All Service Areas**	**$6**										

Table E-8: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$113,752	$119,440	$125,412	$131,683	$138,267	$145,180	$152,439	$160,061	$168,064	$176,467	$185,291
5	Debt Service Payment per EDU	$0.140	$0.145	$0.150	$0.156	$0.161	$0.167	$0.173	$0.180	$0.186	$0.193	$0.200
6	Water Delivery Cumulative Growth in Service Unit Equivalents - All	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$13,386	$13,876	$14,384	$14,910	$15,455	$16,020	$16,606	$17,213	$17,843	$18,496	$19,172
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in All Service Areas**											
9	Study Period Incremental EDUs in All Service Areas											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in All Service Areas**											

Table E-8: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$194,555	$204,283	$214,497	$225,222	$236,483	$248,307	$260,723	$273,759	$251,994	$229,140	$205,144
5	Debt Service Payment per EDU	$0.207	$0.215	$0.223	$0.231	$0.239	$0.248	$0.257	$0.267	$0.242	$0.218	$0.192
6	Water Delivery Cumulative Growth in Service Unit Equivalents - All	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$19,873	$20,600	$21,354	$22,135	$22,944	$23,783	$24,653	$25,555	$23,222	$20,846	$18,425
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in All Service Areas**											
9	Study Period Incremental EDUs in All Service Areas											
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in All Service Areas**											

Table E-8: Calculation of Credit for Projected Principal Payments on Eligible Future High Service and Booster Pump Stations in Low Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$179,949	$153,493	$125,715	$96,547	$65,922	$33,765
5	Debt Service Payment per EDU	$0.167	$0.140	$0.113	$0.086	$0.058	$0.029
6	Water Delivery Cumulative Growth in Service Unit Equivalents - All	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible High Service and Booster Pump Stations Projects to be Recovered from New Connections	$15,955	$13,435	$10,863	$8,236	$5,552	$2,807
8	**Water Delivery - System Development Credit Amount for High Service and Booster Pump Stations in All Service Areas**						
9	Study Period Incremental EDUs in All Service Areas						
10	**Water Delivery - System Development Credit for Future Principal per EDU for High Service and Booster Pump Stations in All Service Areas**						

Table E-9: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$1,355	$2,777	$4,270	$5,839	$7,485	$9,214	$11,029	$12,936	$14,937	$17,038	$17,890
5	Debt Service Payment per EDU	$0.00	$0.00	$0.01	$0.01	$0.01	$0.01	$0.01	$0.02	$0.02	$0.02	$0.02
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	734	1,496	2,289	3,113	3,969	4,859	5,784	6,745	7,744	8,783	8,783
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$1	$6	$13	$25	$40	$59	$84	$113	$148	$189	$195
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High Elevation Service Area**	**$8,102**										
9	Study Period Incremental EDUs in High Elevation Service Area	8,783										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High Elevation Service Area**	**$1**										

Table E-9: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$18,785	$19,724	$20,710	$21,746	$22,833	$23,975	$25,173	$26,432	$27,754	$29,141	$30,598
5	Debt Service Payment per EDU	$0.02	$0.02	$0.02	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$203	$210	$218	$226	$234	$242	$251	$261	$270	$280	$290
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High Elevation Service Area**											
9	Study Period Incremental EDUs in High Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High Elevation Service Area**											

Table E-9: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$32,128	$33,735	$35,422	$37,193	$39,052	$41,005	$43,055	$45,208	$41,614	$37,840	$33,877
5	Debt Service Payment per EDU	$0.03	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.03
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$301	$312	$323	$335	$347	$360	$373	$387	$352	$316	$279
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High Elevation Service Area**											
9	Study Period Incremental EDUs in High Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High Elevation Service Area**											

Table E-9: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$29,716	$25,347	$20,760	$15,944	$10,886	$5,576
5	Debt Service Payment per EDU	$0.03	$0.02	$0.02	$0.01	$0.01	$0.00
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	8,783	8,783	8,783	8,783	8,783	8,783
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$242	$203	$164	$125	$84	$42
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High Elevation Service Area**						
9	Study Period Incremental EDUs in High Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High Elevation Service Area**						

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$2,860	$5,863	$9,015	$12,326	$15,802	$19,452	$23,284	$27,308	$31,533	$35,970	$37,768
5	Debt Service Payment per EDU	$0.00	$0.01	$0.01	$0.02	$0.02	$0.03	$0.03	$0.04	$0.04	$0.05	$0.05
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	4,161	8,400	12,717	17,115	21,594	26,156	30,802	35,535	40,355	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$17	$69	$158	$287	$459	$675	$939	$1,255	$1,624	$2,052	$2,127
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Middle Elevation Service Area**	**$88,320**										
9	Study Period Incremental EDUs in Middle Elevation Service Area	45,265										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Middle Elevation Service Area**	**$2**										

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$39,657	$41,640	$43,722	$45,908	$48,203	$50,613	$53,144	$55,801	$58,591	$61,521	$64,597
5	Debt Service Payment per EDU	$0.05	$0.05	$0.05	$0.05	$0.06	$0.06	$0.06	$0.06	$0.06	$0.07	$0.07
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$2,205	$2,285	$2,369	$2,456	$2,545	$2,638	$2,735	$2,835	$2,939	$3,046	$3,158
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Middle Elevation Service Area**											

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$67,827	$71,218	$74,779	$78,518	$82,444	$86,566	$90,894	$95,439	$87,851	$79,884	$71,518
5	Debt Service Payment per EDU	$0.07	$0.07	$0.08	$0.08	$0.08	$0.09	$0.09	$0.09	$0.08	$0.08	$0.07
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$3,273	$3,393	$3,517	$3,645	$3,779	$3,917	$4,060	$4,209	$3,825	$3,433	$3,034
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Middle Elevation Service Area**											

Table E-10: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Middle Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$62,734	$53,511	$43,827	$33,659	$22,982	$11,771
5	Debt Service Payment per EDU	$0.06	$0.05	$0.04	$0.03	$0.02	$0.01
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	45,265	45,265	45,265	45,265	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$2,628	$2,213	$1,789	$1,356	$914	$462
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Middle Elevation Service Area**						
9	Study Period Incremental EDUs in Middle Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Middle Elevation Service Area**						

Table E-11: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Low Elevation Service Area

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$2,107	$4,320	$6,643	$9,082	$11,644	$14,333	$17,157	$20,122	$23,235	$26,504	$27,829
5	Debt Service Payment per EDU	$0.00	$0.01	$0.01	$0.01	$0.02	$0.02	$0.02	$0.03	$0.03	$0.03	$0.03
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	4,014	8,063	12,148	16,268	20,426	24,620	28,851	33,119	37,425	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$12	$49	$111	$201	$320	$468	$648	$862	$1,110	$1,395	$1,446
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Low Elevation Service Area**	**$60,105**										
9	Study Period Incremental EDUs in Low Elevation Service Area	41,769										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Low Elevation Service Area**	**$1**										

Table E-11: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Low Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$29,221	$30,682	$32,216	$33,827	$35,518	$37,294	$39,159	$41,117	$43,172	$45,331	$47,598
5	Debt Service Payment per EDU	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.05	$0.05	$0.05	$0.05
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$1,499	$1,554	$1,611	$1,670	$1,731	$1,794	$1,860	$1,928	$1,998	$2,071	$2,147
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Low Elevation Service Area**											
9	Study Period Incremental EDUs in Low Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Low Elevation Service Area**											

Table E-11: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Low Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$49,978	$52,476	$55,100	$57,855	$60,748	$63,785	$66,975	$70,323	$64,732	$58,862	$52,698
5	Debt Service Payment per EDU	$0.05	$0.06	$0.06	$0.06	$0.06	$0.06	$0.07	$0.07	$0.06	$0.06	$0.05
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$2,225	$2,307	$2,391	$2,479	$2,569	$2,663	$2,761	$2,862	$2,600	$2,334	$2,063
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Low Elevation Service Area**											
9	Study Period Incremental EDUs in Low Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Low Elevation Service Area**											

Table E-11: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in Low Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$46,225	$39,429	$32,294	$24,801	$16,934	$8,674
5	Debt Service Payment per EDU	$0.04	$0.04	$0.03	$0.02	$0.01	$0.01
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	41,769	41,769	41,769	41,769	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$1,787	$1,505	$1,216	$922	$622	$314
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in Low Elevation Service Area**						
9	Study Period Incremental EDUs in Low Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in Low Elevation Service Area**						

Table E-12: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High/Middle Elevation Service Area

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$4,139	$8,485	$13,049	$17,840	$22,871	$28,154	$33,701	$39,525	$45,641	$52,062	$54,665
5	Debt Service Payment per EDU	$0.01	$0.01	$0.02	$0.02	$0.03	$0.04	$0.04	$0.05	$0.06	$0.07	$0.07
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High/Middle Elevation	4,930	9,959	15,091	20,327	25,669	31,119	36,680	42,353	48,142	54,048	54,048
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$29	$118	$272	$494	$789	$1,162	$1,619	$2,165	$2,805	$3,546	$3,676
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High/Middle Elevation Service Area**	**$152,611**										
9	Study Period Incremental EDUs in High/Middle Elevation Service Area	54,048										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High/Middle Elevation Service Area**	**$3**										

Table E-12: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$57,398	$60,268	$63,281	$66,445	$69,768	$73,256	$76,919	$80,765	$84,803	$89,043	$93,495
5	Debt Service Payment per EDU	$0.07	$0.07	$0.08	$0.08	$0.08	$0.08	$0.09	$0.09	$0.09	$0.10	$0.10
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High/Middle Elevation	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$3,810	$3,949	$4,094	$4,244	$4,399	$4,560	$4,727	$4,899	$5,079	$5,264	$5,457
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High/Middle Elevation Service Area**											
9	Study Period Incremental EDUs in High/Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High/Middle Elevation Service Area**											

Table E-12: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$98,170	$103,079	$108,233	$113,644	$119,326	$125,293	$131,557	$138,135	$127,153	$115,621	$103,513
5	Debt Service Payment per EDU	$0.10	$0.11	$0.11	$0.12	$0.12	$0.13	$0.13	$0.13	$0.12	$0.11	$0.10
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High/Middle Elevation	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048	54,048
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$5,656	$5,863	$6,078	$6,300	$6,530	$6,769	$7,017	$7,274	$6,610	$5,933	$5,244
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High/Middle Elevation Service Area**											
9	Study Period Incremental EDUs in High/Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High/Middle Elevation Service Area**											

Table E-12: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$90,800	$77,451	$63,434	$48,717	$33,263	$17,037
5	Debt Service Payment per EDU	$0.08	$0.07	$0.06	$0.04	$0.03	$0.01
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High/Middle Elevation	54,048	54,048	54,048	54,048	54,048	54,048
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$4,541	$3,824	$3,092	$2,344	$1,580	$799
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in High/Middle Elevation Service Area**						
9	Study Period Incremental EDUs in High/Middle Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in High/Middle Elevation Service Area**						

Table E-13: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in All Service Areas

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$6,171	$12,651	$19,454	$26,598	$34,099	$41,975	$50,245	$58,928	$68,046	$77,619	$81,500
5	Debt Service Payment per EDU	$0.01	$0.02	$0.03	$0.04	$0.05	$0.06	$0.07	$0.08	$0.09	$0.10	$0.10
6	Water Delivery Cumulative Growth in Service Unit Equivalents - All	9,036	18,190	27,462	36,854	46,368	56,005	65,767	75,655	85,671	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$79	$321	$737	$1,334	$2,125	$3,119	$4,328	$5,765	$7,442	$9,372	$9,715
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in All Service Areas**	**$403,634**										
9	Study Period Incremental EDUs in All Service Areas	95,817										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in All Service Area s**	**$4**										

Table E-13: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$85,575	$89,854	$94,347	$99,064	$104,017	$109,218	$114,679	$120,413	$126,434	$132,755	$139,393
5	Debt Service Payment per EDU	$0.11	$0.11	$0.11	$0.12	$0.12	$0.13	$0.13	$0.14	$0.14	$0.15	$0.15
6	Water Delivery Cumulative Growth in Service Unit Equivalents - All	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$10,071	$10,439	$10,821	$11,216	$11,627	$12,052	$12,493	$12,950	$13,423	$13,914	$14,423
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in All Service Areas**											
9	Study Period Incremental EDUs in All Service Areas											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in All Service Area s**											

Table E-13: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$146,363	$153,681	$161,365	$169,433	$177,905	$186,800	$196,140	$205,947	$189,573	$172,381	$154,329
5	Debt Service Payment per EDU	$0.16	$0.16	$0.17	$0.17	$0.18	$0.19	$0.19	$0.20	$0.18	$0.16	$0.14
6	Water Delivery Cumulative Growth in Service Unit Equivalents - All	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$14,951	$15,497	$16,064	$16,652	$17,261	$17,892	$18,547	$19,225	$17,470	$15,683	$13,861
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in All Service Areas**											
9	Study Period Incremental EDUs in All Service Areas											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in All Service Area s**											

Table E-13: Calculation of Credit for Projected Principal Payments on Eligible Future Elevated Storage Tanks in High Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$135,374	$115,472	$94,574	$72,632	$49,592	$25,401
5	Debt Service Payment per EDU	$0.13	$0.11	$0.09	$0.06	$0.04	$0.02
6	Water Delivery Cumulative Growth in Service Unit Equivalents - All	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Elevated Storage Tanks Projects to be Recovered from New Connections	$12,003	$10,107	$8,172	$6,196	$4,177	$2,112
8	**Water Delivery - System Development Credit Amount for Elevated Storage Tanks in All Service Areas**						
9	Study Period Incremental EDUs in All Service Areas						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Elevated Storage Tanks in All Service Area s**						

Table E-14: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$602	$1,234	$1,898	$2,595	$3,327	$4,095	$4,902	$5,749	$6,639	$7,573	$7,951
5	Debt Service Payment per EDU	$0.001	$0.002	$0.003	$0.004	$0.004	$0.005	$0.006	$0.007	$0.008	$0.010	$0.010
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	4,161	8,400	12,717	17,115	21,594	26,156	30,802	35,535	40,355	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$4	$14	$33	$60	$97	$142	$198	$264	$342	$432	$448
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Middle Elevation Service Area**	**$18,594**										
9	Study Period Incremental EDUs in Middle Elevation Service Area	45,265										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Middle Elevation Service Area**	**$0**										

Table E-14: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$8,349	$8,766	$9,205	$9,665	$10,148	$10,655	$11,188	$11,748	$12,335	$12,952	$13,599
5	Debt Service Payment per EDU	$0.010	$0.011	$0.011	$0.011	$0.012	$0.012	$0.013	$0.013	$0.014	$0.014	$0.015
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$464	$481	$499	$517	$536	$555	$576	$597	$619	$641	$665
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Middle Elevation Service Area**											

Table E-14: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$14,279	$14,993	$15,743	$16,530	$17,357	$18,224	$19,136	$20,092	$18,495	$16,818	$15,056
5	Debt Service Payment per EDU	$0.015	$0.016	$0.016	$0.017	$0.018	$0.018	$0.019	$0.020	$0.018	$0.016	$0.014
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$689	$714	$740	$767	$796	$825	$855	$886	$805	$723	$639
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Middle Elevation Service Area**											

Table E-14: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$13,207	$11,266	$9,227	$7,086	$4,838	$2,478
5	Debt Service Payment per EDU	$0.012	$0.010	$0.008	$0.006	$0.004	$0.002
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	45,265	45,265	45,265	45,265	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$553	$466	$377	$286	$192	$97
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Middle Elevation Service Area**						
9	Study Period Incremental EDUs in Middle Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Middle Elevation Service Area**						

Table E-15: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Low Elevation Service Area

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$376	$771	$1,186	$1,622	$2,079	$2,559	$3,064	$3,593	$4,149	$4,733	$4,970
5	Debt Service Payment per EDU	$0.001	$0.001	$0.002	$0.002	$0.003	$0.003	$0.004	$0.005	$0.005	$0.006	$0.006
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	4,014	8,063	12,148	16,268	20,426	24,620	28,851	33,119	37,425	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$2	$9	$20	$36	$57	$84	$116	$154	$198	$249	$258
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Low Elevation Service Area**	**$10,733**										
9	Study Period Incremental EDUs in Low Elevation Service Area	41,769										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Low Elevation Service Area**	**$0**										

Table E-15: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$5,218	$5,479	$5,753	$6,040	$6,343	$6,660	$6,993	$7,342	$7,709	$8,095	$8,500
5	Debt Service Payment per EDU	$0.006	$0.007	$0.007	$0.007	$0.007	$0.008	$0.008	$0.008	$0.009	$0.009	$0.009
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$268	$277	$288	$298	$309	$320	$332	$344	$357	$370	$383
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Low Elevation Service Area**											
9	Study Period Incremental EDUs in Low Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Low Elevation Service Area**											

Table E-15: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$8,925	$9,371	$9,839	$10,331	$10,848	$11,390	$11,960	$12,558	$11,559	$10,511	$9,410
5	Debt Service Payment per EDU	$0.010	$0.010	$0.010	$0.011	$0.011	$0.011	$0.012	$0.012	$0.011	$0.010	$0.009
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$397	$412	$427	$443	$459	$476	$493	$511	$464	$417	$368
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Low Elevation Service Area**											
9	Study Period Incremental EDUs in Low Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Low Elevation Service Area**											

Table E-15: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$8,255	$7,041	$5,767	$4,429	$3,024	$1,549
5	Debt Service Payment per EDU	$0.008	$0.006	$0.005	$0.004	$0.003	$0.001
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	41,769	41,769	41,769	41,769	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$319	$269	$217	$165	$111	$56
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in Low Elevation Service Area**						
9	Study Period Incremental EDUs in Low Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in Low Elevation Service Area**						

Table E-16: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in All Service Areas

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$903	$1,851	$2,847	$3,892	$4,990	$6,143	$7,353	$8,624	$9,958	$11,359	$11,927
5	Debt Service Payment per EDU	$0.001	$0.003	$0.004	$0.005	$0.007	$0.008	$0.010	$0.011	$0.013	$0.014	$0.015
6	Water Delivery Cumulative Growth in Service Unit Equivalents - All	9,036	18,190	27,462	36,854	46,368	56,005	65,767	75,655	85,671	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$12	$47	$108	$195	$311	$456	$633	$844	$1,089	$1,372	$1,422
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in All Service Areas**	**$59,068**										
9	Study Period Incremental EDUs in All Service Areas	95,817										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in All Service Areas**	**$1**										

Table E-16: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$12,523	$13,149	$13,807	$14,497	$15,222	$15,983	$16,782	$17,621	$18,502	$19,428	$20,399
5	Debt Service Payment per EDU	$0.015	$0.016	$0.017	$0.017	$0.018	$0.018	$0.019	$0.020	$0.021	$0.021	$0.022
6	Water Delivery Cumulative Growth in Service Unit Equivalents - All	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$1,474	$1,528	$1,584	$1,641	$1,701	$1,764	$1,828	$1,895	$1,964	$2,036	$2,111
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in All Service Areas**											
9	Study Period Incremental EDUs in All Service Areas											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in All Service Areas**											

Table E-16: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$21,419	$22,490	$23,614	$24,795	$26,035	$27,337	$28,703	$30,139	$27,742	$25,226	$22,585
5	Debt Service Payment per EDU	$0.023	$0.024	$0.025	$0.025	$0.026	$0.027	$0.028	$0.029	$0.027	$0.024	$0.021
6	Water Delivery Cumulative Growth in Service Unit Equivalents - All	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$2,188	$2,268	$2,351	$2,437	$2,526	$2,618	$2,714	$2,813	$2,557	$2,295	$2,028
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in All Service Areas**											
9	Study Period Incremental EDUs in All Service Areas											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in All Service Areas**											

Table E-16: Calculation of Credit for Projected Principal Payments on Eligible Future Ground Storage Tanks in Middle Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$19,811	$16,898	$13,840	$10,629	$7,257	$3,717
5	Debt Service Payment per EDU	$0.018	$0.015	$0.012	$0.009	$0.006	$0.003
6	Water Delivery Cumulative Growth in Service Unit Equivalents - All	95,817	95,817	95,817	95,817	95,817	95,817
7	Water Delivery Debt Service for Fee-Eligible Ground Storage Tanks Projects to be Recovered from New Connections	$1,757	$1,479	$1,196	$907	$611	$309
8	**Water Delivery - System Development Credit Amount for Ground Storage Tanks in All Service Areas**						
9	Study Period Incremental EDUs in All Service Areas						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Ground Storage Tanks in All Service Areas**						

Table E-17: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in High Elevation Service Area

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$903	$1,851	$2,847	$3,892	$4,990	$6,143	$7,353	$8,624	$9,958	$11,359	$11,927
5	Debt Service Payment per EDU	$0.00	$0.00	$0.00	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01	$0.01
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	734	1,496	2,289	3,113	3,969	4,859	5,784	6,745	7,744	8,783	8,783
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$1	$4	$9	$16	$27	$40	$56	$75	$98	$126	$130
8	**Water Delivery - System Development Credit Amount for Transmission Mains in High Elevation Service Area**	**$5,402**										
9	Study Period Incremental EDUs in High Elevation Service Area	8,783										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in High Elevation Service Area**	**$1**										

Table E-17: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in High Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$12,523	$13,149	$13,807	$14,497	$15,222	$15,983	$16,782	$17,621	$18,502	$19,428	$20,399
5	Debt Service Payment per EDU	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$135	$140	$145	$150	$156	$162	$168	$174	$180	$187	$193
8	**Water Delivery - System Development Credit Amount for Transmission Mains in High Elevation Service Area**											
9	Study Period Incremental EDUs in High Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in High Elevation Service Area**											

Table E-17: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in High Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$21,419	$22,490	$23,614	$24,795	$26,035	$27,337	$28,703	$30,139	$27,742	$25,226	$22,585
5	Debt Service Payment per EDU	$0.02	$0.02	$0.02	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.02	$0.02
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783	8,783
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$201	$208	$215	$223	$232	$240	$249	$258	$234	$210	$186
8	**Water Delivery - System Development Credit Amount for Transmission Mains in High Elevation Service Area**											
9	Study Period Incremental EDUs in High Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in High Elevation Service Area**											

Table E-17: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in High Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$19,811	$16,898	$13,840	$10,629	$7,257	$3,717
5	Debt Service Payment per EDU	$0.02	$0.02	$0.01	$0.01	$0.01	$0.00
6	Water Delivery Cumulative Growth in Service Unit Equivalents - High Elevation	8,783	8,783	8,783	8,783	8,783	8,783
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$161	$136	$110	$83	$56	$28
8	**Water Delivery - System Development Credit Amount for Transmission Mains in High Elevation Service Area**						
9	Study Period Incremental EDUs in High Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in High Elevation Service Area**						

Table E-18: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Middle Elevation Service Area

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$9,558	$19,593	$30,131	$41,195	$52,812	$65,010	$77,819	$91,267	$105,388	$120,215	$126,226
5	Debt Service Payment per EDU	$0.01	$0.03	$0.04	$0.06	$0.07	$0.09	$0.10	$0.12	$0.13	$0.15	$0.16
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	4,161	8,400	12,717	17,115	21,594	26,156	30,802	35,535	40,355	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$56	$230	$528	$960	$1,533	$2,256	$3,140	$4,194	$5,429	$6,857	$7,108
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Middle Elevation Service Area**	**$295,174**										
9	Study Period Incremental EDUs in Middle Elevation Service Area	45,265										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Middle Elevation Service Area**	**$7**										

Table E-18: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Middle Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$132,537	$139,164	$146,122	$153,428	$161,100	$169,155	$177,613	$186,493	$195,818	$205,609	$215,889
5	Debt Service Payment per EDU	$0.16	$0.17	$0.17	$0.18	$0.19	$0.19	$0.20	$0.21	$0.22	$0.22	$0.23
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$7,368	$7,638	$7,917	$8,207	$8,507	$8,818	$9,140	$9,475	$9,821	$10,180	$10,553
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Middle Elevation Service Area**											

Table E-18: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Middle Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$226,684	$238,018	$249,919	$262,415	$275,536	$289,312	$303,778	$318,967	$293,607	$266,980	$239,022
5	Debt Service Payment per EDU	$0.24	$0.25	$0.26	$0.27	$0.28	$0.29	$0.30	$0.31	$0.28	$0.25	$0.22
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$10,939	$11,339	$11,754	$12,183	$12,629	$13,091	$13,570	$14,066	$12,782	$11,474	$10,141
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Middle Elevation Service Area**											
9	Study Period Incremental EDUs in Middle Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Middle Elevation Service Area**											

Table E-18: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Middle Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$209,665	$178,841	$146,475	$112,491	$76,808	$39,341
5	Debt Service Payment per EDU	$0.19	$0.16	$0.13	$0.10	$0.07	$0.03
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Middle Elevation	45,265	45,265	45,265	45,265	45,265	45,265
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$8,782	$7,395	$5,979	$4,533	$3,056	$1,545
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Middle Elevation Service Area**						
9	Study Period Incremental EDUs in Middle Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Middle Elevation Service Area**						

Table E-19: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Low Elevation Service Area

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	697,710	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528
2	Incremental EDUs	9,036	9,153	9,272	9,392	9,514	9,637	9,762	9,888	10,016	10,146	10,277
3	Total EDUs	706,747	715,900	725,172	734,564	744,078	753,715	763,477	773,365	783,381	793,528	803,805
4	Annual Debt Service Payment	$2,559	$5,245	$8,066	$11,029	$14,139	$17,404	$20,833	$24,434	$28,214	$32,184	$33,793
5	Debt Service Payment per EDU	$0.00	$0.01	$0.01	$0.02	$0.02	$0.02	$0.03	$0.03	$0.04	$0.04	$0.04
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	4,014	8,063	12,148	16,268	20,426	24,620	28,851	33,119	37,425	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$15	$59	$135	$244	$388	$569	$787	$1,046	$1,348	$1,694	$1,756
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Low Elevation Service Area**	**$72,984**										
9	Study Period Incremental EDUs in Low Elevation Service Area	41,769										
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Low Elevation Service Area**	**$2**										

Table E-19: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Low Elevation Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	803,805	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192
2	Incremental EDUs	10,411	10,545	10,682	10,820	10,960	11,102	11,246	11,392	11,539	11,689	11,840
3	Total EDUs	814,215	824,761	835,443	846,263	857,223	868,326	879,572	890,964	902,503	914,192	926,032
4	Annual Debt Service Payment	$35,482	$37,257	$39,119	$41,075	$43,129	$45,286	$47,550	$49,927	$52,424	$55,045	$57,797
5	Debt Service Payment per EDU	$0.04	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.06	$0.06	$0.06	$0.06
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$1,820	$1,887	$1,956	$2,027	$2,102	$2,178	$2,258	$2,341	$2,426	$2,515	$2,607
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Low Elevation Service Area**											
9	Study Period Incremental EDUs in Low Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Low Elevation Service Area**											

Table E-19: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Low Elevation Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	926,032	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205
2	Incremental EDUs	11,994	12,149	12,306	12,466	12,627	12,791	12,956	13,124	13,294	13,466	13,641
3	Total EDUs	938,026	950,175	962,481	974,947	987,574	1,000,364	1,013,321	1,026,445	1,039,739	1,053,205	1,066,846
4	Annual Debt Service Payment	$60,687	$63,721	$66,907	$70,253	$73,765	$77,454	$81,326	$85,393	$78,604	$71,475	$63,990
5	Debt Service Payment per EDU	$0.06	$0.07	$0.07	$0.07	$0.07	$0.08	$0.08	$0.08	$0.08	$0.07	$0.06
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$2,702	$2,801	$2,904	$3,010	$3,120	$3,234	$3,352	$3,475	$3,158	$2,835	$2,505
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Low Elevation Service Area**											
9	Study Period Incremental EDUs in Low Elevation Service Area											
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Low Elevation Service Area**											

Table E-19: Calculation of Credit for Projected Principal Payments on Eligible Future Transmission Mains in Low Elevation Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,066,846	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745
2	Incremental EDUs	13,817	13,996	14,178	14,361	14,547	14,736
3	Total EDUs	1,080,663	1,094,659	1,108,837	1,123,198	1,137,745	1,152,481
4	Annual Debt Service Payment	$56,131	$47,879	$39,214	$30,116	$20,563	$10,532
5	Debt Service Payment per EDU	$0.05	$0.04	$0.04	$0.03	$0.02	$0.01
6	Water Delivery Cumulative Growth in Service Unit Equivalents - Low Elevation	41,769	41,769	41,769	41,769	41,769	41,769
7	Water Delivery Debt Service for Fee-Eligible Transmission Mains Projects to be Recovered from New Connections	$2,170	$1,827	$1,477	$1,120	$755	$382
8	**Water Delivery - System Development Credit Amount for Transmission Mains in Low Elevation Service Area**						
9	Study Period Incremental EDUs in Low Elevation Service Area						
10	**Water Delivery - System Development Credit for Future Principal per EDU for Transmission Mains in Low Elevation Service Area**						

Table E-20: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Medio Creek Service Area

Line No.	Description	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	11 2024
1	Beginning of Year EDUs	655,623	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212
2	Incremental EDUs	8,984	9,107	9,232	9,359	9,487	9,617	9,749	9,882	10,018	10,155	10,294
3	Total EDUs	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212	761,506
4	Annual Debt Service Payment	$3,311	$6,788	$10,439	$14,272	$18,297	$22,523	$26,961	$31,620	$36,512	$41,649	$43,732
5	Debt Service Payment per EDU	$0.00	$0.01	$0.02	$0.02	$0.03	$0.03	$0.04	$0.04	$0.05	$0.06	$0.06
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	804	1,625	2,463	3,318	4,191	5,083	5,993	6,922	7,870	8,838	8,838
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$4	$16	$38	$68	$109	$161	$224	$299	$388	$490	$508
8	**Wastewater Treatment Credit Amount for Medio Creek Service Area**	**$20,883**										
9	Study Period Incremental EDUs in Medio Creek Service Area	8,838										
10	**Wastewater Treatment Credit for Future Principal per EDU for Medio Creek Service Area**	**$2**										

Table E-20: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Dos Rios Service Area

Line No.	Description	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035
1	Beginning of Year EDUs	761,506	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533
2	Incremental EDUs	10,435	10,578	10,723	10,870	11,019	11,170	11,323	11,478	11,635	11,795	11,957
3	Total EDUs	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533	884,489
4	Annual Debt Service Payment	$45,918	$48,214	$50,625	$53,156	$55,814	$58,605	$61,535	$64,612	$67,842	$71,235	$74,796
5	Debt Service Payment per EDU	$0.06	$0.06	$0.06	$0.07	$0.07	$0.07	$0.07	$0.08	$0.08	$0.08	$0.08
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$526	$545	$564	$584	$605	$627	$649	$673	$697	$722	$747
8	**Wastewater Treatment Credit Amount for Medio Creek Service Area**											
9	Study Period Incremental EDUs in Medio Creek Service Area											
10	**Wastewater Treatment Credit for Future Principal per EDU for Medio Creek Service Area**											

Table E-20: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Dos Rios Service Area

Line No.	Description	23 2036	24 2037	25 2038	26 2039	27 2040	28 2041	29 2042	30 2043	31 2044	32 2045	33 2046
1	Beginning of Year EDUs	884,489	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447
2	Incremental EDUs	12,120	12,286	12,455	12,625	12,798	12,974	13,152	13,332	13,515	13,700	13,887
3	Total EDUs	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447	1,027,334
4	Annual Debt Service Payment	$78,536	$82,463	$86,586	$90,915	$95,461	$100,234	$105,246	$110,508	$101,722	$92,497	$82,811
5	Debt Service Payment per EDU	$0.09	$0.09	$0.09	$0.10	$0.10	$0.10	$0.11	$0.11	$0.10	$0.09	$0.08
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$774	$802	$831	$860	$891	$923	$956	$990	$899	$807	$712
8	**Wastewater Treatment Credit Amount for Medio Creek Service Area**											
9	Study Period Incremental EDUs in Medio Creek Service Area											
10	**Wastewater Treatment Credit for Future Principal per EDU for Medio Creek Service Area**											

Table E-20: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Dos Rios Service Area

Line No.	Description	34 2047	35 2048	36 2049	37 2050	38 2051	39 2052
1	Beginning of Year EDUs	1,027,334	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679
2	Incremental EDUs	14,078	14,271	14,466	14,665	14,865	15,069
3	Total EDUs	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679	1,114,748
4	Annual Debt Service Payment	$72,640	$61,961	$50,747	$38,973	$26,611	$13,630
5	Debt Service Payment per EDU	$0.07	$0.06	$0.05	$0.04	$0.02	$0.01
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	8,838	8,838	8,838	8,838	8,838	8,838
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$616	$519	$419	$318	$214	$108
8	**Wastewater Treatment Credit Amount for Medio Creek Service Area**						
9	Study Period Incremental EDUs in Medio Creek Service Area						
10	**Wastewater Treatment Credit for Future Principal per EDU for Medio Creek Service Area**						

Table E-21: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Dos Rios Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	655,623	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212
2	Incremental EDUs	8,984	9,107	9,232	9,359	9,487	9,617	9,749	9,882	10,018	10,155	10,294
3	Total EDUs	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212	761,506
4	Annual Debt Service Payment	$26,491	$54,306	$83,511	$114,177	$146,377	$180,186	$215,686	$252,961	$292,099	$333,195	$349,855
5	Debt Service Payment per EDU	$0.04	$0.08	$0.12	$0.16	$0.21	$0.25	$0.30	$0.35	$0.39	$0.44	$0.46
6	Wastewater Cumulative Growth in Service Unit Equivalents - Leon Creek / Dos Rios	8,171	16,449	24,838	33,337	41,949	50,676	59,517	68,476	77,553	86,751	86,751
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$326	$1,326	$3,037	$5,498	$8,750	$12,835	$17,801	$23,695	$30,569	$38,478	$39,856
8	**Wastewater Treatment Credit Amount for Leon Creek / Dos Rios Service Area**	**$1,640,960**										
9	Study Period Incremental EDUs in Leon Creek / Dos Rios Service Area	86,751										
10	**Wastewater Treatment Credit for Future Principal per EDU for Leon Creek / Dos Rios Service Area**	**$19**										

Table E-21: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Dos Rios Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	761,506	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533
2	Incremental EDUs	10,435	10,578	10,723	10,870	11,019	11,170	11,323	11,478	11,635	11,795	11,957
3	Total EDUs	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533	884,489
4	Annual Debt Service Payment	$367,347	$385,715	$405,001	$425,251	$446,513	$468,839	$492,281	$516,895	$542,740	$569,876	$598,370
5	Debt Service Payment per EDU	$0.48	$0.49	$0.51	$0.53	$0.55	$0.57	$0.59	$0.61	$0.63	$0.65	$0.68
6	Wastewater Cumulative Growth in Service Unit Equivalents - Leon Creek / Dos Rios	86,751	86,751	86,751	86,751	86,751	86,751	86,751	86,751	86,751	86,751	86,751
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$41,283	$42,761	$44,292	$45,878	$47,521	$49,222	$50,984	$52,810	$54,701	$56,660	$58,688
8	**Wastewater Treatment Credit Amount for Leon Creek / Dos Rios Service Area**											
9	Study Period Incremental EDUs in Leon Creek / Dos Rios Service Area											
10	**Wastewater Treatment Credit for Future Principal per EDU for Leon Creek / Dos Rios Service Area**											

Table E-21: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Dos Rios Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	884,489	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447
2	Incremental EDUs	12,120	12,286	12,455	12,625	12,798	12,974	13,152	13,332	13,515	13,700	13,887
3	Total EDUs	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447	1,027,334
4	Annual Debt Service Payment	$628,289	$659,703	$692,688	$727,323	$763,689	$801,873	$841,967	$884,065	$813,778	$739,977	$662,485
5	Debt Service Payment per EDU	$0.70	$0.73	$0.75	$0.78	$0.81	$0.84	$0.87	$0.90	$0.81	$0.73	$0.64
6	Wastewater Cumulative Growth in Service Unit Equivalents - Leon Creek / Dos Rios	86,751	86,751	86,751	86,751	86,751	86,751	86,751	86,751	86,751	86,751	86,751
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$60,790	$62,966	$65,221	$67,556	$69,975	$72,481	$75,076	$77,764	$70,614	$63,342	$55,942
8	**Wastewater Treatment Credit Amount for Leon Creek / Dos Rios Service Area**											
9	Study Period Incremental EDUs in Leon Creek / Dos Rios Service Area											
10	**Wastewater Treatment Credit for Future Principal per EDU for Leon Creek / Dos Rios Service Area**											

Table E-21: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Treatment Facilities in Leon Creek / Dos Rios Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,027,334	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679
2	Incremental EDUs	14,078	14,271	14,466	14,665	14,865	15,069
3	Total EDUs	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679	1,114,748
4	Annual Debt Service Payment	$581,119	$495,684	$405,978	$311,786	$212,885	$109,039
5	Debt Service Payment per EDU	$0.56	$0.47	$0.38	$0.29	$0.19	$0.10
6	Wastewater Cumulative Growth in Service Unit Equivalents - Leon Creek / Dos Rios	86,751	86,751	86,751	86,751	86,751	86,751
7	Wastewater Debt Service for Fee-Eligible Treatment Projects to be Recovered from New Connections	$48,408	$40,733	$32,910	$24,933	$16,794	$8,486
8	**Wastewater Treatment Credit Amount for Leon Creek / Dos Rios Service Area**						
9	Study Period Incremental EDUs in Leon Creek / Dos Rios Service Area						
10	**Wastewater Treatment Credit for Future Principal per EDU for Leon Creek / Dos Rios Service Area**						

Table E-22: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Medio Creek Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	655,623	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212
2	Incremental EDUs	8,984	9,107	9,232	9,359	9,487	9,617	9,749	9,882	10,018	10,155	10,294
3	Total EDUs	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212	761,506
4	Annual Debt Service Payment	$5,343	$10,954	$16,845	$23,030	$29,525	$36,344	$43,505	$51,023	$58,918	$67,207	$70,567
5	Debt Service Payment per EDU	$0.01	$0.02	$0.02	$0.03	$0.04	$0.05	$0.06	$0.07	$0.08	$0.09	$0.09
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	804	1,625	2,463	3,318	4,191	5,083	5,993	6,922	7,870	8,838	8,838
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$6	$26	$61	$110	$176	$260	$362	$483	$626	$791	$819
8	**Wastewater Collection Credit Amount for Medio Creek Service Area**	**$33,697**										
9	Study Period Incremental EDUs in Medio Creek Service Area	8,838										
10	**Wastewater Collection Credit for Future Principal per EDU for Medio Creek Service Area**	**$4**										

Table E-22: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Medio Creek Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	761,506	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533
2	Incremental EDUs	10,435	10,578	10,723	10,870	11,019	11,170	11,323	11,478	11,635	11,795	11,957
3	Total EDUs	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533	884,489
4	Annual Debt Service Payment	$74,096	$77,800	$81,690	$85,775	$90,064	$94,567	$99,295	$104,260	$109,473	$114,947	$120,694
5	Debt Service Payment per EDU	$0.10	$0.10	$0.10	$0.11	$0.11	$0.11	$0.12	$0.12	$0.13	$0.13	$0.14
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$848	$879	$910	$943	$977	$1,011	$1,048	$1,085	$1,124	$1,164	$1,206
8	**Wastewater Collection Credit Amount for Medio Creek Service Area**											
9	Study Period Incremental EDUs in Medio Creek Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Medio Creek Service Area**											

Table E-22: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Medio Creek Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	884,489	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447
2	Incremental EDUs	12,120	12,286	12,455	12,625	12,798	12,974	13,152	13,332	13,515	13,700	13,887
3	Total EDUs	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447	1,027,334
4	Annual Debt Service Payment	$126,729	$133,065	$139,718	$146,704	$154,040	$161,742	$169,829	$178,320	$164,143	$149,257	$133,626
5	Debt Service Payment per EDU	$0.14	$0.15	$0.15	$0.16	$0.16	$0.17	$0.17	$0.18	$0.16	$0.15	$0.13
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838	8,838
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$1,249	$1,294	$1,340	$1,388	$1,438	$1,489	$1,543	$1,598	$1,451	$1,302	$1,150
8	**Wastewater Collection Credit Amount for Medio Creek Service Area**											
9	Study Period Incremental EDUs in Medio Creek Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Medio Creek Service Area**											

Table E-22: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Medio Creek Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,027,334	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679
2	Incremental EDUs	14,078	14,271	14,466	14,665	14,865	15,069
3	Total EDUs	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679	1,114,748
4	Annual Debt Service Payment	$117,214	$99,982	$81,888	$62,889	$42,940	$21,994
5	Debt Service Payment per EDU	$0.11	$0.09	$0.08	$0.06	$0.04	$0.02
6	Wastewater Cumulative Growth in Service Unit Equivalents - Medio Creek	8,838	8,838	8,838	8,838	8,838	8,838
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$995	$837	$676	$512	$345	$174
8	**Wastewater Collection Credit Amount for Medio Creek Service Area**						
9	Study Period Incremental EDUs in Medio Creek Service Area						
10	**Wastewater Collection Credit for Future Principal per EDU for Medio Creek Service Area**						

Table E-23: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Medina Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	655,623	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212
2	Incremental EDUs	8,984	9,107	9,232	9,359	9,487	9,617	9,749	9,882	10,018	10,155	10,294
3	Total EDUs	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212	761,506
4	Annual Debt Service Payment	$8,956	$18,359	$28,233	$38,600	$49,485	$60,915	$72,917	$85,518	$98,750	$112,643	$118,275
5	Debt Service Payment per EDU	$0.01	$0.03	$0.04	$0.06	$0.07	$0.09	$0.10	$0.12	$0.13	$0.15	$0.16
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Medina	1,340	2,778	4,319	5,973	7,747	9,649	11,690	13,878	16,226	18,744	18,744
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$18	$76	$179	$333	$546	$826	$1,182	$1,624	$2,162	$2,811	$2,911
8	**Wastewater Collection Credit Amount for Upper Medina Service Area**	**$119,225**										
9	Study Period Incremental EDUs in Upper Medina Service Area	18,744										
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Medina Service Area**	**$6**										

Table E-23: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Medina Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	761,506	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533
2	Incremental EDUs	10,435	10,578	10,723	10,870	11,019	11,170	11,323	11,478	11,635	11,795	11,957
3	Total EDUs	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533	884,489
4	Annual Debt Service Payment	$124,188	$130,398	$136,918	$143,764	$150,952	$158,499	$166,424	$174,746	$183,483	$192,657	$202,290
5	Debt Service Payment per EDU	$0.16	$0.17	$0.17	$0.18	$0.19	$0.19	$0.20	$0.21	$0.21	$0.22	$0.23
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Medina	18,744	18,744	18,744	18,744	18,744	18,744	18,744	18,744	18,744	18,744	18,744
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$3,016	$3,123	$3,235	$3,351	$3,471	$3,595	$3,724	$3,858	$3,996	$4,139	$4,287
8	**Wastewater Collection Credit Amount for Upper Medina Service Area**											
9	Study Period Incremental EDUs in Upper Medina Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Medina Service Area**											

Table E-23: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Medina Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	884,489	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447
2	Incremental EDUs	12,120	12,286	12,455	12,625	12,798	12,974	13,152	13,332	13,515	13,700	13,887
3	Total EDUs	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447	1,027,334
4	Annual Debt Service Payment	$212,404	$223,025	$234,176	$245,885	$258,179	$271,088	$284,642	$298,874	$275,113	$250,163	$223,965
5	Debt Service Payment per EDU	$0.24	$0.25	$0.25	$0.26	$0.27	$0.28	$0.29	$0.30	$0.28	$0.25	$0.22
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Medina	18,744	18,744	18,744	18,744	18,744	18,744	18,744	18,744	18,744	18,744	18,744
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$4,440	$4,599	$4,764	$4,935	$5,111	$5,294	$5,484	$5,680	$5,158	$4,627	$4,086
8	**Wastewater Collection Credit Amount for Upper Medina Service Area**											
9	Study Period Incremental EDUs in Upper Medina Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Medina Service Area**											

Table E-23: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Medina Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,027,334	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679
2	Incremental EDUs	14,078	14,271	14,466	14,665	14,865	15,069
3	Total EDUs	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679	1,114,748
4	Annual Debt Service Payment	$196,458	$167,575	$137,248	$105,405	$71,970	$36,862
5	Debt Service Payment per EDU	$0.19	$0.16	$0.13	$0.10	$0.07	$0.03
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Medina	18,744	18,744	18,744	18,744	18,744	18,744
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$3,536	$2,975	$2,404	$1,821	$1,227	$620
8	**Wastewater Collection Credit Amount for Upper Medina Service Area**						
9	Study Period Incremental EDUs in Upper Medina Service Area						
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Medina Service Area**						

Table E-24: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Medina Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	655,623	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212
2	Incremental EDUs	8,984	9,107	9,232	9,359	9,487	9,617	9,749	9,882	10,018	10,155	10,294
3	Total EDUs	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212	761,506
4	Annual Debt Service Payment	$2,860	$5,863	$9,015	$12,326	$15,802	$19,452	$23,284	$27,308	$31,533	$35,970	$37,768
5	Debt Service Payment per EDU	$0.00	$0.01	$0.01	$0.02	$0.02	$0.03	$0.03	$0.04	$0.04	$0.05	$0.05
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Lower Medina	1,684	3,474	5,376	7,399	9,548	11,833	14,262	16,844	19,589	22,506	22,506
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$7	$30	$71	$132	$215	$324	$460	$629	$834	$1,078	$1,116
8	**Wastewater Collection Credit Amount for Lower Medina Service Area**	**$45,752**										
9	Study Period Incremental EDUs in Upper/Lower Medina Service Area	22,506										
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Medina Service Area**	**$2**										

Table E-24: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Medina Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	761,506	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533
2	Incremental EDUs	10,435	10,578	10,723	10,870	11,019	11,170	11,323	11,478	11,635	11,795	11,957
3	Total EDUs	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533	884,489
4	Annual Debt Service Payment	$39,657	$41,640	$43,722	$45,908	$48,203	$50,613	$53,144	$55,801	$58,591	$61,521	$64,597
5	Debt Service Payment per EDU	$0.05	$0.05	$0.06	$0.06	$0.06	$0.06	$0.06	$0.07	$0.07	$0.07	$0.07
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Lower Medina	22,506	22,506	22,506	22,506	22,506	22,506	22,506	22,506	22,506	22,506	22,506
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$1,156	$1,198	$1,240	$1,285	$1,331	$1,379	$1,428	$1,479	$1,532	$1,587	$1,644
8	**Wastewater Collection Credit Amount for Lower Medina Service Area**											
9	Study Period Incremental EDUs in Upper/Lower Medina Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Medina Service Area**											

Table E-24: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Medina Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	884,489	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447
2	Incremental EDUs	12,120	12,286	12,455	12,625	12,798	12,974	13,152	13,332	13,515	13,700	13,887
3	Total EDUs	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447	1,027,334
4	Annual Debt Service Payment	$67,827	$71,218	$74,779	$78,518	$82,444	$86,566	$90,894	$95,439	$87,851	$79,884	$71,518
5	Debt Service Payment per EDU	$0.08	$0.08	$0.08	$0.08	$0.09	$0.09	$0.09	$0.10	$0.09	$0.08	$0.07
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Lower Medina	22,506	22,506	22,506	22,506	22,506	22,506	22,506	22,506	22,506	22,506	22,506
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$1,703	$1,763	$1,827	$1,892	$1,960	$2,030	$2,103	$2,178	$1,978	$1,774	$1,567
8	**Wastewater Collection Credit Amount for Lower Medina Service Area**											
9	Study Period Incremental EDUs in Upper/Lower Medina Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Medina Service Area**											

Table E-24: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Medina Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,027,334	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679
2	Incremental EDUs	14,078	14,271	14,466	14,665	14,865	15,069
3	Total EDUs	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679	1,114,748
4	Annual Debt Service Payment	$62,734	$53,511	$43,827	$33,659	$22,982	$11,771
5	Debt Service Payment per EDU	$0.06	$0.05	$0.04	$0.03	$0.02	$0.01
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Lower Medina	22,506	22,506	22,506	22,506	22,506	22,506
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$1,356	$1,141	$922	$698	$470	$238
8	**Wastewater Collection Credit Amount for Lower Medina Service Area**						
9	Study Period Incremental EDUs in Upper/Lower Medina Service Area						
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Medina Service Area**						

Table E-25: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Collection Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	655,623	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212
2	Incremental EDUs	8,984	9,107	9,232	9,359	9,487	9,617	9,749	9,882	10,018	10,155	10,294
3	Total EDUs	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212	761,506
4	Annual Debt Service Payment	$21,749	$44,586	$68,565	$93,742	$120,179	$147,937	$177,083	$207,687	$239,820	$273,561	$287,239
5	Debt Service Payment per EDU	$0.03	$0.07	$0.10	$0.14	$0.17	$0.21	$0.25	$0.28	$0.32	$0.36	$0.38
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Collection	3,232	6,535	9,910	13,358	16,882	20,483	24,162	27,922	31,763	35,689	35,689
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$106	$432	$995	$1,809	$2,891	$4,259	$5,933	$7,932	$10,279	$12,996	$13,462
8	**Wastewater Collection Credit Amount for Upper Collection Service Area**	**$553,824**										
9	Study Period Incremental EDUs in Upper Collection Service Area	35,689										
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Collection Service Area**	**$16**										

Table E-25: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Collection Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	761,506	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533
2	Incremental EDUs	10,435	10,578	10,723	10,870	11,019	11,170	11,323	11,478	11,635	11,795	11,957
3	Total EDUs	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533	884,489
4	Annual Debt Service Payment	$301,601	$316,681	$332,515	$349,140	$366,597	$384,927	$404,174	$424,382	$445,601	$467,882	$491,276
5	Debt Service Payment per EDU	$0.39	$0.40	$0.42	$0.43	$0.45	$0.47	$0.48	$0.50	$0.52	$0.54	$0.56
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Collection	35,689	35,689	35,689	35,689	35,689	35,689	35,689	35,689	35,689	35,689	35,689
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$13,944	$14,443	$14,960	$15,496	$16,051	$16,626	$17,221	$17,837	$18,476	$19,138	$19,823
8	**Wastewater Collection Credit Amount for Upper Collection Service Area**											
9	Study Period Incremental EDUs in Upper Collection Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Collection Service Area**											

Table E-25: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Collection Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	884,489	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447
2	Incremental EDUs	12,120	12,286	12,455	12,625	12,798	12,974	13,152	13,332	13,515	13,700	13,887
3	Total EDUs	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447	1,027,334
4	Annual Debt Service Payment	$515,839	$541,631	$568,713	$597,149	$627,006	$658,356	$691,274	$725,838	$668,130	$607,538	$543,915
5	Debt Service Payment per EDU	$0.58	$0.60	$0.62	$0.64	$0.66	$0.69	$0.71	$0.74	$0.67	$0.60	$0.53
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Collection	35,689	35,689	35,689	35,689	35,689	35,689	35,689	35,689	35,689	35,689	35,689
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$20,533	$21,268	$22,029	$22,818	$23,635	$24,481	$25,358	$26,266	$23,851	$21,395	$18,895
8	**Wastewater Collection Credit Amount for Upper Collection Service Area**											
9	Study Period Incremental EDUs in Upper Collection Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Collection Service Area**											

Table E-25: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Upper Collection Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,027,334	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679
2	Incremental EDUs	14,078	14,271	14,466	14,665	14,865	15,069
3	Total EDUs	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679	1,114,748
4	Annual Debt Service Payment	$477,112	$406,968	$333,317	$255,983	$174,783	$89,523
5	Debt Service Payment per EDU	$0.46	$0.39	$0.31	$0.24	$0.16	$0.08
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper Collection	35,689	35,689	35,689	35,689	35,689	35,689
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$16,351	$13,758	$11,116	$8,422	$5,672	$2,866
8	**Wastewater Collection Credit Amount for Upper Collection Service Area**						
9	Study Period Incremental EDUs in Upper Collection Service Area						
10	**Wastewater Collection Credit for Future Principal per EDU for Upper Collection Service Area**						

Table E-26: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Middle Collection Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	655,623	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212
2	Incremental EDUs	8,984	9,107	9,232	9,359	9,487	9,617	9,749	9,882	10,018	10,155	10,294
3	Total EDUs	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212	761,506
4	Annual Debt Service Payment	$19,266	$39,495	$60,736	$83,038	$106,456	$131,045	$156,863	$183,972	$212,436	$242,324	$254,440
5	Debt Service Payment per EDU	$0.03	$0.06	$0.09	$0.12	$0.15	$0.18	$0.22	$0.25	$0.29	$0.32	$0.33
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle Collection	4,522	9,097	13,728	18,414	23,157	27,956	32,813	37,729	42,703	47,737	47,737
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$131	$533	$1,221	$2,209	$3,513	$5,150	$7,137	$9,495	$12,241	$15,399	$15,950
8	**Wastewater Collection Credit Amount for Middle Collection Service Area**	**$656,788**										
9	Study Period Incremental EDUs in Upper/Middle Collection Service Area	47,737										
10	**Wastewater Collection Credit for Future Principal per EDU for Middle Collection Service Area**	**$14**										

Table E-26: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Middle Collection Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	761,506	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533
2	Incremental EDUs	10,435	10,578	10,723	10,870	11,019	11,170	11,323	11,478	11,635	11,795	11,957
3	Total EDUs	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533	884,489
4	Annual Debt Service Payment	$267,162	$280,520	$294,546	$309,273	$324,737	$340,974	$358,022	$375,923	$394,720	$414,456	$435,178
5	Debt Service Payment per EDU	$0.35	$0.36	$0.37	$0.38	$0.40	$0.41	$0.43	$0.44	$0.46	$0.48	$0.49
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle Collection	47,737	47,737	47,737	47,737	47,737	47,737	47,737	47,737	47,737	47,737	47,737
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$16,521	$17,113	$17,726	$18,360	$19,018	$19,699	$20,404	$21,135	$21,891	$22,675	$23,487
8	**Wastewater Collection Credit Amount for Middle Collection Service Area**											
9	Study Period Incremental EDUs in Upper/Middle Collection Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Middle Collection Service Area**											

Table E-26: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Middle Collection Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	884,489	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447
2	Incremental EDUs	12,120	12,286	12,455	12,625	12,798	12,974	13,152	13,332	13,515	13,700	13,887
3	Total EDUs	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447	1,027,334
4	Annual Debt Service Payment	$456,937	$479,784	$503,773	$528,962	$555,410	$583,181	$612,340	$642,957	$591,839	$538,165	$481,807
5	Debt Service Payment per EDU	$0.51	$0.53	$0.55	$0.57	$0.59	$0.61	$0.63	$0.65	$0.59	$0.53	$0.47
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle Collection	47,737	47,737	47,737	47,737	47,737	47,737	47,737	47,737	47,737	47,737	47,737
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$24,328	$25,199	$26,101	$27,036	$28,004	$29,007	$30,045	$31,121	$28,260	$25,350	$22,388
8	**Wastewater Collection Credit Amount for Middle Collection Service Area**											
9	Study Period Incremental EDUs in Upper/Middle Collection Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Middle Collection Service Area**											

Table E-26: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Middle Collection Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,027,334	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679
2	Incremental EDUs	14,078	14,271	14,466	14,665	14,865	15,069
3	Total EDUs	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679	1,114,748
4	Annual Debt Service Payment	$422,632	$360,497	$295,257	$226,754	$154,825	$79,301
5	Debt Service Payment per EDU	$0.41	$0.34	$0.28	$0.21	$0.14	$0.07
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle Collection	47,737	47,737	47,737	47,737	47,737	47,737
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$19,373	$16,301	$13,171	$9,978	$6,721	$3,396
8	**Wastewater Collection Credit Amount for Middle Collection Service Area**						
9	Study Period Incremental EDUs in Upper/Middle Collection Service Area						
10	**Wastewater Collection Credit for Future Principal per EDU for Middle Collection Service Area**						

Table E-27: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Collection Service Area

Line No.	Description	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016	7 2017	8 2018	9 2019	10 2020	11 2021
1	Beginning of Year EDUs	655,623	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212
2	Incremental EDUs	8,984	9,107	9,232	9,359	9,487	9,617	9,749	9,882	10,018	10,155	10,294
3	Total EDUs	664,607	673,714	682,946	692,305	701,792	711,409	721,157	731,040	741,057	751,212	761,506
4	Annual Debt Service Payment	$17,234	$35,329	$54,330	$74,280	$95,228	$117,223	$140,319	$164,568	$190,031	$216,766	$227,604
5	Debt Service Payment per EDU	$0.03	$0.05	$0.08	$0.11	$0.14	$0.16	$0.19	$0.23	$0.26	$0.29	$0.30
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle/Lower Collection	6,130	12,324	18,582	24,904	31,293	37,748	44,270	50,860	57,518	64,245	64,245
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$159	$646	$1,478	$2,672	$4,246	$6,220	$8,614	$11,449	$14,749	$18,538	$19,202
8	**Wastewater Collection Credit Amount for Lower Collection Service Area**	**$790,805**										
9	Study Period Incremental EDUs in Upper/Middle/Lower Collection Service Area	64,245										
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Collection Service Area**	**$12**										

Table E-27: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Collection Service Area

Line No.	Description	12 2022	13 2023	14 2024	15 2025	16 2026	17 2027	18 2028	19 2029	20 2030	21 2031	22 2032
1	Beginning of Year EDUs	761,506	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533
2	Incremental EDUs	10,435	10,578	10,723	10,870	11,019	11,170	11,323	11,478	11,635	11,795	11,957
3	Total EDUs	771,941	782,519	793,242	804,112	815,131	826,301	837,624	849,102	860,738	872,533	884,489
4	Annual Debt Service Payment	$238,985	$250,934	$263,480	$276,655	$290,487	$305,012	$320,262	$336,275	$353,089	$370,744	$389,281
5	Debt Service Payment per EDU	$0.31	$0.32	$0.33	$0.34	$0.36	$0.37	$0.38	$0.40	$0.41	$0.42	$0.44
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle/Lower Collection	64,245	64,245	64,245	64,245	64,245	64,245	64,245	64,245	64,245	64,245	64,245
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$19,890	$20,602	$21,339	$22,103	$22,895	$23,715	$24,564	$25,443	$26,354	$27,298	$28,275
8	**Wastewater Collection Credit Amount for Lower Collection Service Area**											
9	Study Period Incremental EDUs in Upper/Middle/Lower Collection Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Collection Service Area**											

Table E-27: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Collection Service Area

Line No.	Description	23 2033	24 2034	25 2035	26 2036	27 2037	28 2038	29 2039	30 2040	31 2041	32 2042	33 2043
1	Beginning of Year EDUs	884,489	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447
2	Incremental EDUs	12,120	12,286	12,455	12,625	12,798	12,974	13,152	13,332	13,515	13,700	13,887
3	Total EDUs	896,610	908,896	921,351	933,976	946,775	959,749	972,900	986,232	999,747	1,013,447	1,027,334
4	Annual Debt Service Payment	$408,745	$429,182	$450,641	$473,173	$496,832	$521,673	$547,757	$575,145	$529,418	$481,405	$430,992
5	Debt Service Payment per EDU	$0.46	$0.47	$0.49	$0.51	$0.52	$0.54	$0.56	$0.58	$0.53	$0.48	$0.42
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle/Lower Collection	64,245	64,245	64,245	64,245	64,245	64,245	64,245	64,245	64,245	64,245	64,245
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$29,288	$30,337	$31,423	$32,548	$33,713	$34,921	$36,171	$37,466	$34,021	$30,518	$26,952
8	**Wastewater Collection Credit Amount for Lower Collection Service Area**											
9	Study Period Incremental EDUs in Upper/Middle/Lower Collection Service Area											
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Collection Service Area**											

Table E-27: Calculation of Credit for Projected Principal Payments on Eligible Future Wastewater Collection Facilities in Lower Collection Service Area

Line No.	Description	34 2044	35 2045	36 2046	37 2047	38 2048	39 2049
1	Beginning of Year EDUs	1,027,334	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679
2	Incremental EDUs	14,078	14,271	14,466	14,665	14,865	15,069
3	Total EDUs	1,041,412	1,055,683	1,070,149	1,084,813	1,099,679	1,114,748
4	Annual Debt Service Payment	$378,057	$322,476	$264,116	$202,838	$138,496	$70,937
5	Debt Service Payment per EDU	$0.36	$0.31	$0.25	$0.19	$0.13	$0.06
6	Wastewater Cumulative Growth in Service Unit Equivalents - Upper/Middle/Lower Collection	64,245	64,245	64,245	64,245	64,245	64,245
7	Wastewater Debt Service for Fee-Eligible Collection System Projects to be Recovered from New Connections	$23,322	$19,625	$15,856	$12,013	$8,091	$4,088
8	**Wastewater Collection Credit Amount for Lower Collection Service Area**						
9	Study Period Incremental EDUs in Upper/Middle/Lower Collection Service Area						
10	**Wastewater Collection Credit for Future Principal per EDU for Lower Collection Service Area**						

April 1, 2014

Leticia Vacek
City Clerk
City of San Antonio
P. O. Box 839966
San Antonio, Texas 78283

Dear Ms.Vacek:

This letter is to deliver to the City of San Antonio City Council the Updated Impact Fee Report, which is titled "Water and Wastewater Facilities Land Use Assumptions Plan, Capital Improvements Plan, and Maximum Impact Fees."

As required by Section 395.053 of the Texas Local Government Code, the governing body of the political subdivision must receive this Updated Impact Fee Report prior to setting a public hearing to discuss and review the update and shall ultimately determine whether to amend the existing plan. City Council is scheduled to consider a resolution or ordinance on April 3rd that will set the public hearing and consideration for May 8th. The Capital Improvements Advisory Committee's report, including recommendations and comments, is also attached to this Updated Impact Fee Report. And finally, the San Antonio Water System Board of Trustees is scheduled for consideration of the updated impact fees on May 6th.

Sincerely,

Robert R. Puente
President/Chief Executive Officer

Attachment

cc: The Honorable Julián Castro, Mayor
Councilman Diego M. Bernal, District 1
Councilwoman Ivy R. Taylor, District 2
Councilwoman Rebecca J. Viagran, District 3
Councilman Rey Saldana, District 4
Councilwoman Shirley Gonzales, District 5
Councilman Ray Lopez, District 6
Councilman Cris Medina, District 7
Councilman Ron Nirenberg, District 8
Councilman Joe Krier, District 9
Councilman Mike Gallagher, District 10

AGENDA ITEM NO. 33

TO: San Antonio Water System Board of Trustees

FROM: Sam Mills, P.E., Director of Infrastructure Planning and Kelley S. Neumann, P.E., Sr. Vice President of Strategic Resources

THROUGH: Robert R. Puente, President/Chief Executive Officer

SUBJECT: APPROVAL OF RESOLUTION ACCEPTING AND RECOMMENDING FOR CITY COUNCIL APPROVAL THE 2014 - 2023 UPDATE OF THE LAND USE ASSUMPTIONS PLAN, THE WATER DELIVERY, WATER SUPPLY, AND WASTEWATER CAPITAL IMPROVEMENTS PLAN AND THE MAXIMUM IMPACT FEE CALCULATIONS

Board Action Date: May 5, 2014

SUMMARY AND RECOMMENDATION:

The attached resolution accepts and recommends for City Council approval of the updated 2014 – 2023 Land Use Assumptions Plan, the Water Supply, Water Delivery, and Wastewater Capital Improvements Plans, and Maximum Impact Fee Calculations.

- Chapter 395 of the Local Government Code requires that impact fees must be updated every five years. The current impact fees for water delivery, water supply and wastewater were approved by the San Antonio City Council in May 2011.

- Chapter 395 of the Local Government Code requires that impact fees be calculated based upon a land use assumptions plan (LUAP) that projects demand over the next ten-year period and the capital costs associated with providing service to that new demand.

- San Antonio Water System staff have been meeting with the Capital Improvements Advisory Committee (CIAC) since May 2013 to update the LUAP, capital improvements plans for water supply, water delivery and wastewater, and the maximum impact fees for water delivery, water supply and wastewater (Attachment I).

- The San Antonio Water System is integrating the former Bexar Metropolitan Water District (the District Special Project (DSP)), and the BexarMet impact fees require update by June 2014, requiring that the impact fees for the integrated water system be updated at this time.

- System staff, in conjunction with the development community, city agencies, state agencies and private organizations developed the 2014-2023 LUAP. The plan forecasts the change in demand for the ten-year period.

  - Water LUAP = 95,817 equivalent dwelling units (EDU's)
  - Wastewater LUAP = 95,589 EDU's

- System staff have identified new and existing capital improvement projects in the 2014-2023 water supply, water delivery, and wastewater capital improvements plan (CIP) as necessary projects to serve the projected growth.

Water Delivery CIP	$195.2 million
▪ Flow	$121.5 million
▪ System Development	$73.7 million
Water Supply CIP	$282.4 million
Wastewater CIP	$253.8 million
▪ Collection	$167.1 million
▪ Treatment	$86.7 million
TOTAL	$731.4 million

- From the LUAP and the water delivery, water supply, and wastewater CIP's, proposed maximum impact fees per EDU were calculated as follows:

Maximum Water Flow	=	$1,182
Maximum System Development		
▪ High	=	$ 883
▪ Middle	=	$ 799
▪ Low	=	$ 619
Maximum Water Supply Impact Fee	=	$2,796
Maximum Collection Impact Fee		
▪ Medio Creek	=	$ 838
▪ Upper Medina	=	$1,565
▪ Lower Medina	=	$ 475
▪ Upper Collection	=	$2,520
▪ Middle Collection	=	$1,469
▪ Lower Collection	=	$ 719
Maximum Treatment Impact Fee		
▪ Medio Creek	=	$1,429
▪ Dos Rios/Leon Creek	=	$ 786

- Changes in the draft updated impact fee program for 2013 -2023 include:

    - The changes from the existing water service areas to the proposed service areas are largely due to the addition of five DSP service areas totaling 174,000 acres. In addition, SAWS-driven changes located in the northwest portion of the county are due to a reduction in CCN application areas. One CCN application was reduced from 15,000 acres to 49 acres and a CCN application of 21,000 acres was withdrawn completely. SAWS was also granted a CCN application area that added 8,500 acres in the northeast portion of the SAWS service area. The net change in water service area is an increase of 146,549 acres.

    - The changes from the current wastewater service areas to the proposed service areas are in the northwest and southeast portions of the wastewater service area. The changes in the northwest were due to reduced CCN application areas. One application was reduced from 62,000 acres to 24,000 acres and another application was reduced from 50,000 acres to 9,000 acres. The southeast area was reduced due to a CCN application area being amended from 30,000 acres to 22,000 acres. The net change in wastewater service area is a reduction of 87,000 acres.

    - Large wastewater projects undertaken since 2011 have increased Wastewater Collection values, and large wastewater collection projects have also increased in construction costs.

    - More precise allocations of Construction Work-in-Progress (CWIP) capital projects have also contributed to higher valuation of existing wastewater-related infrastructure.

    - The method used during the impact fee calculation to determine the value of the existing wastewater collection infrastructure capacity was changed to provide a more accurate valuation by using the hydraulic model in place of using just diameter and length of each pipe. This caused the value of existing capacity for some service areas to increase from the 2011 study.

    - Many of the treatment projects from the 2011 impact fee update have been completed and the value moved to equity, thereby increasing the value of available capacity. The cost of new projects has increased slightly and the available new capacity has been reduced. The net impact of these variables is an overall increase in the treatment impact fee.

- Corrections made to underlying assumptions used in the 2011 update have contributed to changes in the valuation of water infrastructure, resulting in a slight overall decrease in water flow and system development impact fees.

- More expensive new water supplies have increased the water supply impact fee by $1,499.00 per EDU.

- Chapter 395 of the Texas Local Government Code requires the CIAC to oversee and comment on the impact fee process. The committee has eleven members and is appointed by City Council.

- On March 6, 2014, the CIAC accepted with comments and recommended for adoption by City Council the proposed updated 2014 – 2023 LUAP, the water delivery, water supply, and wastewater CIP's and the maximum water delivery, water supply, and wastewater impact fee calculations. The CIAC recommended charging the maximum water delivery and wastewater impact fees, and $1,590/EDU instead of the maximum calculated water supply impact fee.

- The CIAC developed findings and comments to present to City Council as part of their report. The findings are attached as Attachment 2.

- Once accepted by the SAWS Board of Trustees and recommended for City Council adoption, the updated 2014 – 2023 LUAP, water delivery, water supply, and wastewater CIP's, and the maximum water delivery, water supply, and wastewater impact fee calculations will be presented to City Council for final approval.

Staff recommends approval of this resolution.

FINANCIAL IMPACT:

Impact fees are charged on an equivalent dwelling unit (EDU) basis. The fee collected will be used to fund capital improvements listed in the plan and to reimburse the System for existing capacity.

Sam Mills, P.E.
Director of Infrastructure Planning

Kelley S. Neumann, P.E.
Senior Vice President of Strategic Resources

APPROVED:

Robert R. Puente
President/Chief Executive Officer

Attachments:
1. Draft 2014-2023 Land Use Water Assumptions, Water Delivery, Water Supply, and Wastewater Capital Improvements Plans and Maximum Impact Fees
2. Draft Capital Improvements Advisory Committee Findings

CAPITAL IMPROVEMENTS ADVISORY COMMITTEE
REPORT TO THE SAN ANTONIO CITY COUNCIL ON THE UPDATE OF THE 2011 – 2020 LAND USE ASSUMPTION PLAN, CAPITAL IMPROVEMENTS PLAN AND MAXIMUM IMPACT FEES

Chapter 395 of the Texas Local Government Code establishes both the procedural and substantive requirements for the City Council of the City of San Antonio (City) to adopt impact fees related to the San Antonio Water System's (SAWS) water and wastewater capital costs associated with new development. As part of those requirements, Section 395.058 of the Code requires the City Council to appoint an impact fee advisory committee, but gives the Council the option to either: designate the Planning or Zoning Commission as the advisory committee; or create a separate and independent advisory committee. In August of 1987, pursuant to Resolution No. 87-41-64, the City Council created the Capital Improvements Advisory Committee (CIAC) as an independent impact fee advisory committee.

Pursuant to Section 395.058, the CIAC is charged with the following responsibilities: advise and assist the City/SAWS in adopting a Land Use Assumptions Plan (LUAP); review the Capital Improvements Plan (CIP) and file written comments; monitor and evaluate the implementation of the CIP; file semiannual reports on the progress of the CIP and report any perceived inequities to the City/SAWS; and advise the City/SAWS of the need to update the CIP, LUAP and/or Impact Fees (see § 395.058). For the purposes of the proposed comprehensive five (5) year update, the CIAC's main purpose is to timely file its written comments consistent with those relevant responsibilities delineated above. The SAWS Board has the authority to make an independent recommendation to City Council and the Council has the final authority to adopt the updated CIP, LUAP and Impact Fees up to the maximum calculations. The CIAC shall meet at least semi-annually to review the status of the impact fee program and to meet the current legislative requirements.

Since May 2013, the CIAC has met approximately 17 times with SAWS staff and consultants. SAWS staff and consultants made many presentations and provided the CIAC with the opportunity to discuss and deliberate numerous aspects of the proposed impact fee program. Although the ultimate responsibility for calculating the Maximum Impact Fees based on the CIP and LUAP totals and formula prescribed by Chapter 395 rests with the professional staff and consultants, the CIAC provided direction and comments which were taken into consideration in compiling the final CIP, LUAP and Maximum Impact Fee calculations. The CIAC voted to make separate findings and comments to City Council to be incorporated into this report, which are specifically delineated as follows:

BACKGROUND

1. **Legal Basis**
    a. Impact fees may be adopted and collected under Chapter 395 of the Texas Local Government Code.
    b. Impact fees are a framework for financing the capital improvements related to growth for water and sewer infrastructure.
    c. Impact fees are a one-time charge to fund the cost of building new infrastructure to serve new development. They may be collected only for capital costs. Costs for operations and maintenance are not eligible.
    d. Chapter 395 requires that impact fees must be updated every five years, for a ten year period.
    e. Chapter 395 of the L.G.C. requires utilities to calculate a rate credit for growth related CIP to be subtracted from the calculated impact fee.
    f. The rate credit is based on the amount of projected future rate revenues or taxes expected to be generated by the new development and used to pay for capital improvements identified in the CIP.
    g. Utilities can calculate the rate credit and apply it to the impact fee or apply a credit equal to 50% of the calculated impact fee.
    h. SAWS has historically opted to calculate the rate credit which results in the calculation of the maximum impact fee.
    i. Chapter 395 requires the calculation of the maximum impact fee. It does not require that the maximum impact fee be charged.
    j. A copy of all agendas, minutes, recordings and presentations to the CIAC will be maintained by SAWS. A copy of the draft 2014-2023 impact fee report is attached for reference.
    k. The CIAC, in its advisory capacity to City Council, is required to file its written comments on the proposed updates and amendments to the CIP, LUAP and maximum impact fees no later than six (6) business days prior to the public hearing on the updates and amendments (see § 395.056).

2. **Factual Basis**
    a. The San Antonio Water System updated impact fees in May 2011. The SAWS impact fees must be updated before June 2016.
    b. The Bexar Met Water System (currently known as the District Special Project, or DSP) updated impact fees in June 2009. The Bexar Met impact fees must be updated before June 2014.
    c. Senate Bill 341 set an election date for BexarMet ratepayers to vote on dissolving the utility. The measure passed by 74 percent of the vote, and the U.S. Department of Justice approved the results in late January 2012. SB 341 calls for full integration of Bexar Met within five years.
    d. SAWS is updating the impact fees as an integrated system. The revised Water Supply, Water Flow, and Water System Development impact fees will be based on the combined water service areas.

e. SAWS updated its Water Management Plan in 2012 to address a changing population from the 2010 census, BexarMet integration, endangered species, integration, and increased underground water storage in the Twin Oaks ASR.
f. The changes to the water service areas from the 2011 impact fee update are largely due to the addition of five DSP service areas totaling 174,000 acres. In addition, SAWS driven changes located in the northwest portion of the county are due to a reduction in CCN application areas. One CCN application was reduced from 15,000 acres to 49 acres and a CCN application of 21,000 acres was withdrawn completely. SAWS was also granted a CCN application area that added 8,500 acres in the northeast portion of the SAWS service area. The net change in water service area is an increase of 146,549 acres.
g. The changes to the wastewater service areas from the 2011 impact fee update are in the northwest and southeast portions of the wastewater service area. The changes in the northwest were due to reduced CCN application areas. One application was reduced from 62,000 acres to 24,000 acres and another application was reduced from 50,000 acres to 9,000 acres. The southeast area was reduced due to a CCN application area being amended from 30,000 acres to 22,000 acres. The net change in wastewater service area is a reduction of 87,000 acres.
h. Chapter 395 of the L.G.C. allows for financing costs to be included in the calculation of impact fees.
i. Financing costs for existing projects were included in the impact fee calculations.
j. Financing costs for future projects were not included since SAWS reserves the option to fund growth projects with cash.
k. Financing costs for existing and future projects were not included in the water supply impact fee calculation.
l. Historically, the City of San Antonio has approved charging the maximum impact fee.
m. Many other cities charge an impact fee that is less than the maximum impact fee, possibly to stimulate economic activity. A comparison of other U.S. and Texas cities' impact fees is in Appendix B.
n. If less than the maximum impact fee is charged the difference would be made up from other sources.

LAND USE ASSUMPTIONS PLAN

3. **The Land Use Assumptions Plan is accepted and recommended for City Council approval.**
    a. 10 year water Land Use Assumptions Plan = 95,817 EDUs
    b. 10 year wastewater Land Use Assumptions Plan = 95,589 EDUs
    c. A summary of the change in EDUs, CIP, and maximum calculated impact fees is in Appendix A.
    d. The committee recommended approval of the Land Use Assumptions Plan by a vote of 10 to 0.

CAPITAL IMPROVEMENTS PLAN

4. **The Water Supply Capital Improvements Plan is based on the SAWS 50 Year Water Management Plan.**
    a. The 50 Year Water Management Plan uses the drought of record as the guide to determine when projects are needed and the amount of Edwards Aquifer water that will be available based on projected pumping restrictions.
    b. The existing water supply projects used in the calculation are the Average Existing Edwards Aquifer, Local Carrizo, Trinity-WECO, Oliver Ranch, BSR, GBRA-Western Canyon, and Medina System Surface Water.
    c. The 2014 to 2023 projects used in the calculation are the Average New Edwards Aquifer, Regional Carrizo/SSLGC, Brackish Groundwater Desalination Phases 1 and 2, Expanded Carrizo Phases 1 and 2, and the portion of the integration line needed for the local Carrizo and Brackish Desalination projects over the next ten years. The Regional Water Project is not included in the 2014 to 2023 impact fees.
    d. SAWS determined the total amount of Edwards Aquifer water available as the average during a repeat of a 10-year Drought of Record, or similar conditions. This total amount was calculated to be 215,477 AF (or 614,109 EDUs) for its existing Edwards supply, and 7,106 AF (or 20,253 EDUs) for its future Edwards supply. Of this total 222,583 AF (or 634,362 EDUs), 210,157 AF (or 598,948 EDUs) was used for existing customers, while 8,642 AF (or 24,629 EDUs) was used for customers 2014-2023. The remaining 3,784 AF (or 10,785 EDUs) was used for customers beyond the year 2023.
    e. The maximum water supply impact fee calculation does not cause new customers to subsidize existing BexarMet customers.
    f. The consequence of the integration of existing and new BexarMet customers increased the maximum water supply impact fee by $482/EDU, of which $122/EDU was for existing BexarMet customers using existing SAWS supplies. The integration of the former Bexar Met Water System water supplies into SAWS water supplies reduced the amount of existing water supplies available for growth which increased the number of new EDUs using new supplies.
    g. SAWS staff changed the assumption for debt financing the future Water Supply CIP from 100% debt financing to 50% debt financing, matching SAWS multi-year financial plan. This reduced the Water Supply rate credit and increased the impact fee.
    h. The Committee determined that it was inappropriate to allocate 100% of the Capital Costs of new water supply projects to new development as this did not reflect the benefit to existing customers of the diversification of our water supply as well as the reduced drought risk provided by the increased, non-Edwards supply. Thereafter, the Committee recommends the Water Supply Impact Fee be calculated by using the total capital costs of existing and new water supplies divided by the total number of firm yield EDU's available during the planning period. An example of this calculation is as follows:

Existing Water Supply Capital Funding	$792,000,000
Pro-Rata Portion of New Water Supply Capital Costs	$282,000,000

Total Capital Costs Allocated to Planning Period		$1,074,000,000
Existing Firm Yield	204,000	Ac.Ft.
Projected New Consumption in Planning Period	33,000	Ac.Ft.
	237,000	Ac.Ft.

$1,074,000,000 ÷ 237,000 = $4,531/Ac.Ft.

$4,531 ÷ 2.85 EDUs/Ac.Ft. = $1,590/EDU

The reduction in the maximum calculated water supply impact fee to $1,590 could potentially require an increase of 0.257% per year in the monthly charges for the average residential customer over the next 10 years, for a total rate increase of 2.57%. This equates to a 14 cent monthly increase incrementally each year in the average SAWS bill.

Other options to mitigate this reduction in the water supply impact fee could include adjusting the tiered rate structure to increase the impact on higher water users.

i. A summary of the change in EDUs, CIP, maximum calculated impact fees, and CIAC recommended impact fees is in Appendix A.
j. The committee voted 8-1 to recommend approval of the $1,590 Water Supply Impact Fee. There were two committee members absent, and Ms. Hardberger voted against the motion.

5. The Water Delivery Capital Improvements Plan has lower existing infrastructure values for Water Flow and System Development.

a. Corrections made to underlying assumptions used in 2011 have contributed to changes in the valuation of Water Flow and System Development infrastructure such as:
    i. Exclusion of meters and services infrastructure values.
    ii. Distance of transmission pipelines no longer influenced by Aquifer Storage & Recovery (ASR) pipeline distance.
    iii. Impact Fee credits no longer included in infrastructure valuation.
    iv. SAWS staff changed the assumption for debt financing the future Water Delivery CIP from 20% to 70 %, matching SAWS multi-year financial plan. This increased the rate credit and reduced the Flow and System Development impact fees.
b. A summary of the change in EDUs, CIP, maximum calculated impact fees, and CIAC recommended impact fees is in Appendix A.
c. The committee recommended approval of the Water Delivery Capital Improvements Plan by a vote of 10 to 0.

6. **The Wastewater Capital Improvements Plan has higher existing infrastructure values for Collection and Wastewater Treatment.**
    a. The methods used to determine the value of the existing infrastructure has evolved further to provide a more accurate valuation.
    b. Large wastewater projects undertaken since 2011 have increased Wastewater Collection values (e.g. Medina River Sewer Outfall, C-33 Broadway Corridor, and C-01 Central Watershed Sewer Relief Line). Large wastewater collection projects have also increased in construction costs. Bids are coming in higher than the original cost estimate used in the 2011 impact fee study. The percent increase of estimated to actual costs for several projects ranges from 8% to 55%. Therefore all cost estimates for the wastewater collection impact fee projects expected to be constructed in the next 10 years were adjusted to reflect recent bids.
    c. More precise allocations of Construction Work-in-Progress (CWIP) capital projects also contributed to higher valuation of existing wastewater related infrastructure.
    d. In the 2011 update, the value of the existing wastewater collection infrastructure was based on the diameter and length. Additionally, SAWS assumed the growth between year 2011 and year 2020 would use 10% of any available capacity in the system. This 10% was applied to the equity for each of the six wastewater collection impact fee areas.
    e. In the 2014 update, the value of the existing collection infrastructure was provided by Finance. Master Planning proportionately assigned the values by impact fee area using diameter and length. This did not change from the 2011 study. However, the capacity used in the system for each pipe was determined using the wastewater hydraulic model. The total capacity for each impact area was calculated and then the percent used by each service area over the next 10 years was calculated using the change in EDUs from the 2014 LUAP. The percent of available capacity used by the 10 year EDU projection for each impact fee area ranged from 8% to 28%. These percentages were applied to the value of the equity in each service area. The value of infrastructure that crossed service areas was proportionately assigned to the respective service areas using the diameter and length of pipe in each service area. The upper impact fee service areas paid for their proportionate use of available capacity in downstream infrastructure over the 10 year period. This caused the value of existing capacity used to increase from the 2011 study.
    f. SAWS staff changed the assumption for debt financing the future Wastewater CIP from 20% to 70 %, matching SAWS multi-year financial plan. This increased the rate credit and reduced the Collection and Treatment impact fees.
    g. For wastewater treatment, the 2014 LUAP population projections for the next 10 years were applied at a rate of 90 gallons per capita per day (gpcd) to calculate the 10 year capacity. The 90 gpcd rate equates to 215 gallons per EDU (gal/EDU), which is less than the 2011 value of 240 gal/EDU. The ratio of the 10 year capacity over the total capacity of the Water Recycling Centers was applied to the known value of the existing WRCs to determine the value of the eligible equity in the impact fees.

h. Many of the treatment projects from the 2011 impact fee study have been completed and the value moved to equity, thereby increasing the value of available capacity. The cost of new projects has increased slightly and the available new capacity has been reduced. The net impact of these variables is an overall increase in the Treatment impact fee.
i. A summary of the change in EDUs, CIP, maximum calculated impact fees, and CIAC recommended impact fees is in Appendix A.
j. The committee recommended approval of the Wastewater Capital Improvements Plan by a vote of 10 to 0.

7. **The Capital Improvements Plan is accepted and recommended for City Council approval.**
   a. 10 year value of eligible water supply projects = $282.4 million
   b. 10 year value of eligible water flow projects = $121.5 million
   c. 10 year value of eligible water system development projects = $73.7 million
   d. 10 year value of eligible wastewater treatment projects = $86.7 million
   e. 10 year value of eligible wastewater collection projects = $167.1 million
   f. Total 10 year value of all impact fee eligible projects = $731.3 million

MAXIMUM IMPACT FEES

8. **The maximum calculated impact fees are shown below:**

a. Water supply impact fee =	$2,796
b. Water flow impact fee =	$1,182
c. Water System development impact fee	
High =	$883
Middle =	$799
Low =	$619
d. Wastewater treatment	
Medio Creek =	$1,429
Dos Rios/Leon Creek =	$786
e. Wastewater collection	
Medio Creek =	$838
Upper Medina =	$1,565
Lower Medina =	$475
Upper Collection =	$2,520
Middle Collection =	$1,469
Lower Collection =	$719

The percentage change and dollar amount of the maximum impact fees by service areas are shown in Appendix D.

The percentage change and dollar amount of the maximum impact fees by the former Bexar Met (DSP) service areas are shown in Appendix E.

CAPITAL IMPROVEMENTS ADVISORY COMMITTEE RECOMMENDATIONS

9. The CIAC accepts and recommends for City Council approval the maximum calculated impact fees except for the Water Supply impact fee as shown below:

a. Water supply impact fee =	$1,590
b. Water flow impact fee =	$1,182
c. Water System development impact fee	
High =	$883
Middle =	$799
Low =	$619
d. Wastewater treatment	
Medio Creek =	$1,429
Dos Rios/Leon Creek =	$786
e. Wastewater collection	
Medio Creek =	$838
Upper Medina =	$1,565
Lower Medina =	$475
Upper Collection =	$2,520
Middle Collection =	$1,469
Lower Collection =	$719

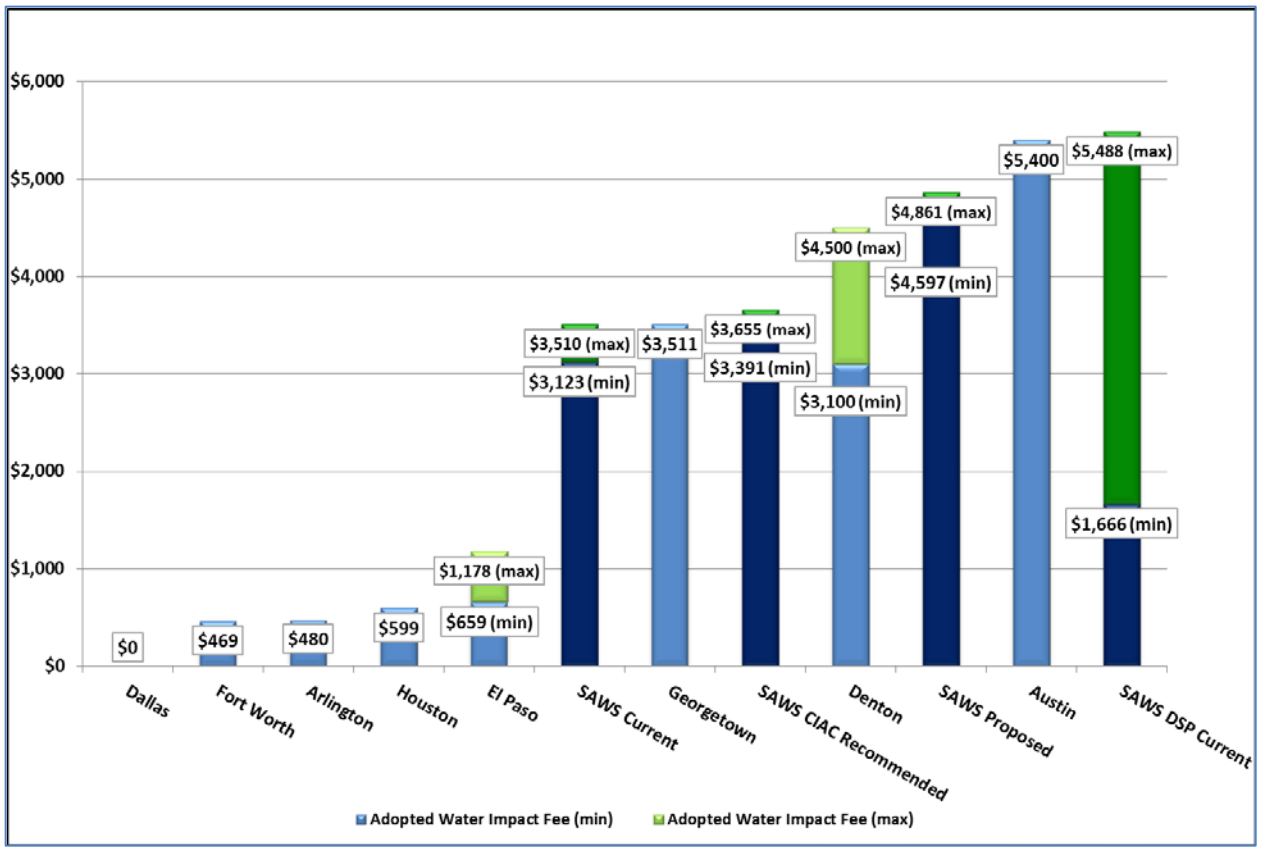
APPENDIX A: LUAP, CIP, and Impact Fee Summary

	LUAP (EDUs)		Eligible CIP ($)		Impact Fee ($/EDU)			Impact Fee ($/EDU) CIAC Recommendation	
	2011	2014	2011	2014	2011	Maximim Calculated 2014	% Change	2014	% Change from 2011
Water Supply	80,343	95,817	$ 115,660,971	$ 282,391,017	$ 1,297	$2,796	116%	$1,590	23%
Water Flow	80,343	95,817	$ 107,071,131	$ 121,466,247	$ 1,247	$1,182	-5%	$1,182	-5%
Water System Development (total)	80,343	95,817	$ 64,278,453	$ 73,696,321					
High Elevation	18,818	8,783	$ 18,749,685	$ 6,574,789	$ 966	$883	-9%	$883	-9%
Middle Elevation	41,501	45,265	$ 33,332,491	$ 34,596,341	$ 774	$799	3%	$799	3%
Low Elevation	20,024	41,769	$ 12,196,277	$ 32,525,191	$ 579	$619	7%	$619	7%
Wastewater Treatment (total)	107,075	95,589	$ 77,766,825	$ 86,683,968					
Medio Creek	17,234	8,838	$ 25,542,728	$ 13,385,880	$ 1,379	$1,429	4%	$1,429	4%
Leon/Dos Rios Creeks	89,841	86,751	$ 52,224,097	$ 73,298,089	$ 552	$786	42%	$786	42%
Wastewater Collection (total)	107,075	95,589	$ 139,872,333	$ 167,093,734					
Medio Creek	17,234	8,838	$ 10,285,377	$ 7,627,627	$ 582	$838	44%	$838	44%
Upper Medina	14,224	18,744	$ 6,705,155	$ 21,475,227	$ 1,053	$1,565	49%	$1,565	49%
Lower Medina	1,721	3,762	$ 9,597,499	$ 11,374,282	$ 594	$475	-20%	$475	-20%
Upper Collection	50,727	35,689	$ 34,328,678	$ 39,431,580	$ 1,795	$2,520	40%	$2,520	40%
Middle Collection	7,207	12,048	$ 36,197,660	$ 37,842,239	$ 1,142	$1,469	29%	$1,469	29%
Lower Collection	15,962	16,508	$ 42,757,964	$ 49,342,780	$ 552	$719	30%	$719	30%
Total			$ 504,649,713	$ 731,331,287					

Notes:

1. 2011 = Final Approved 2011 to 2020 impact fee program
2. 2014 = Draft Proposed to date 2014 to 2023 impact fee program
3. 2011 figures do not include BexarMet data.
4. Rate increase based on 1% per $45 million new debt
5. Projected excess water supply capacity is 17,761 EDUs

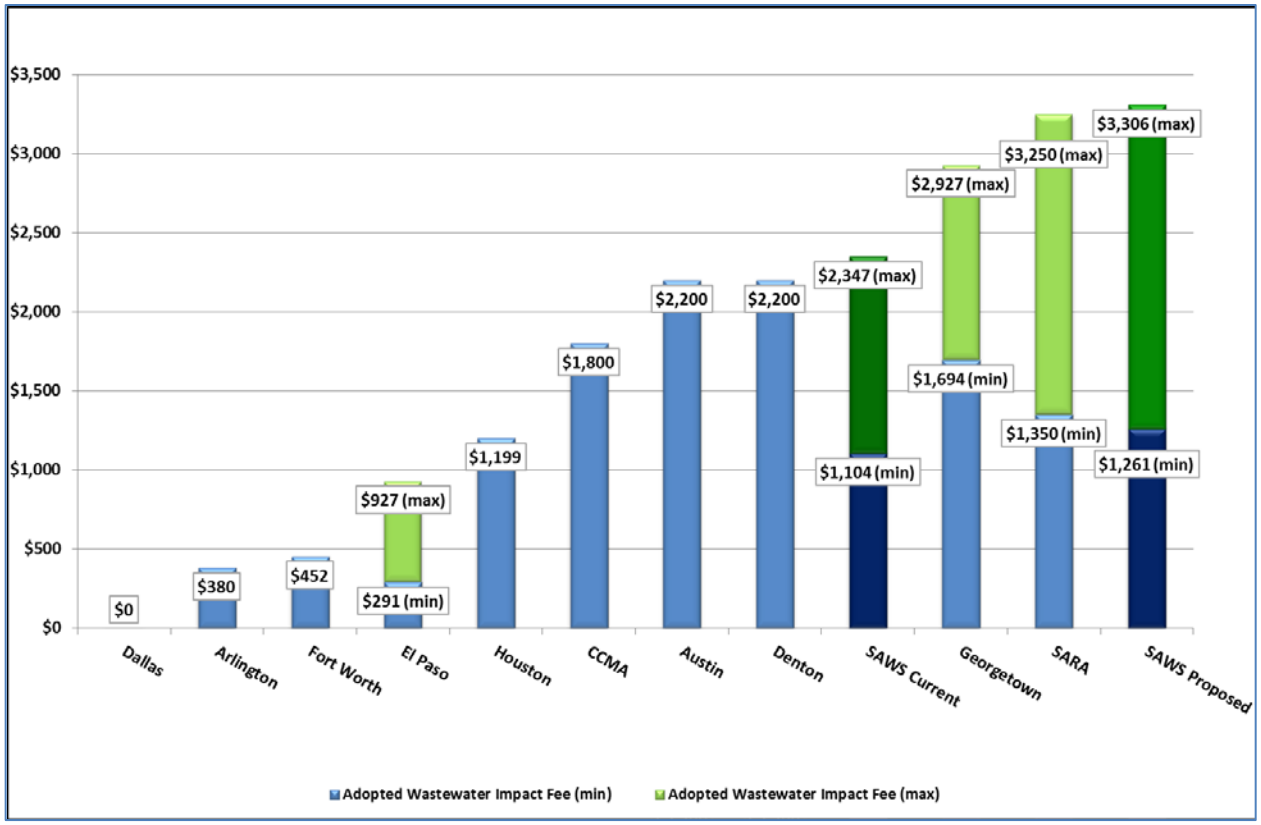
APPENDIX B: Impact Fee Survey of Texas Cities



Comparison to other Texas utilities – water

SAWS Current is the impact fees in effect as of March 6, 2014. SAWS CIAC recommended is the impact fees recommended with this report. SAWS proposed are the minimum and maximum calculated impact fees with this report. SAWS DSP Current is the Bexar Met impact fees as of March 6, 2014.

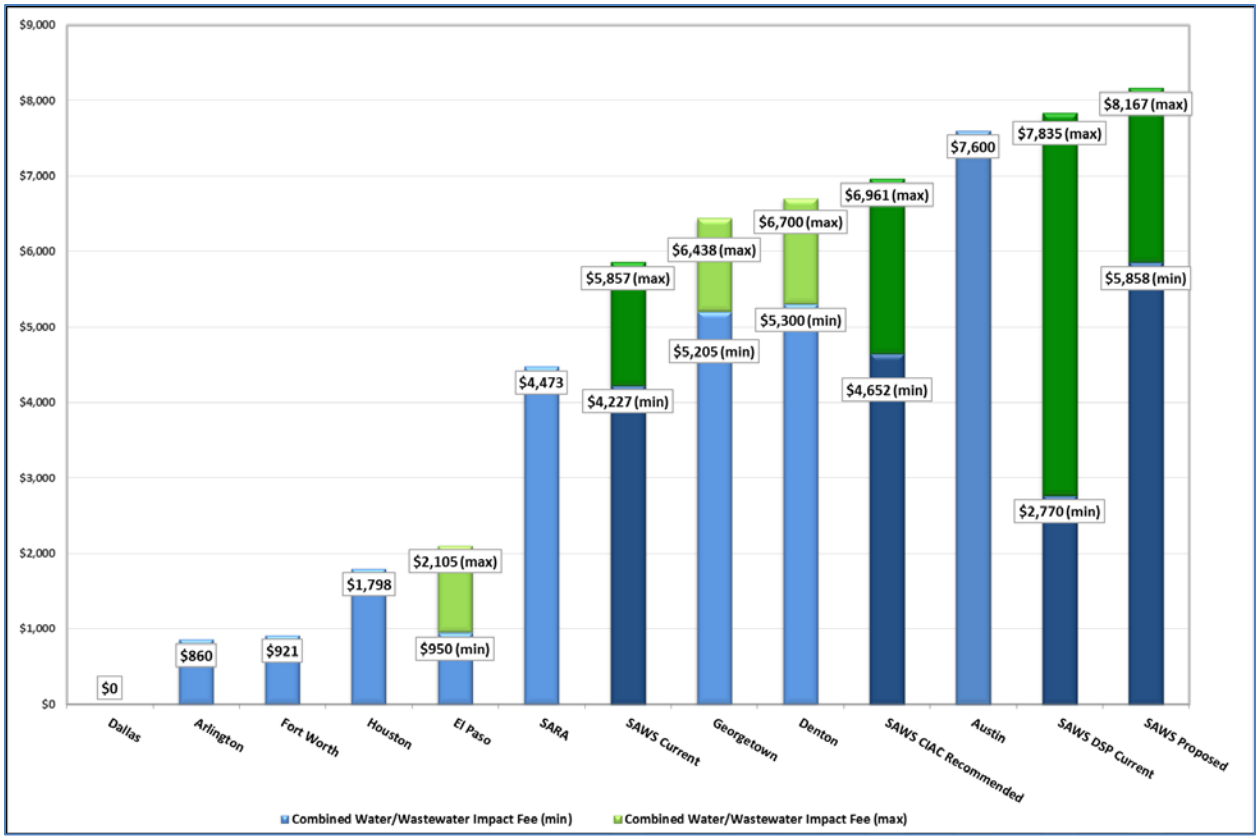
APPENDIX B: Impact Fee Survey of Texas Cities



Comparison to other Texas utilities – wastewater

SAWS Current is the impact fees in effect as of March 6, 2014. SAWS CIAC recommended is the impact fees recommended with this report. SAWS proposed is the minimum and maximum calculated impact fees with this report. CCMA and SARA are the impact fees as of March 6, 2014.

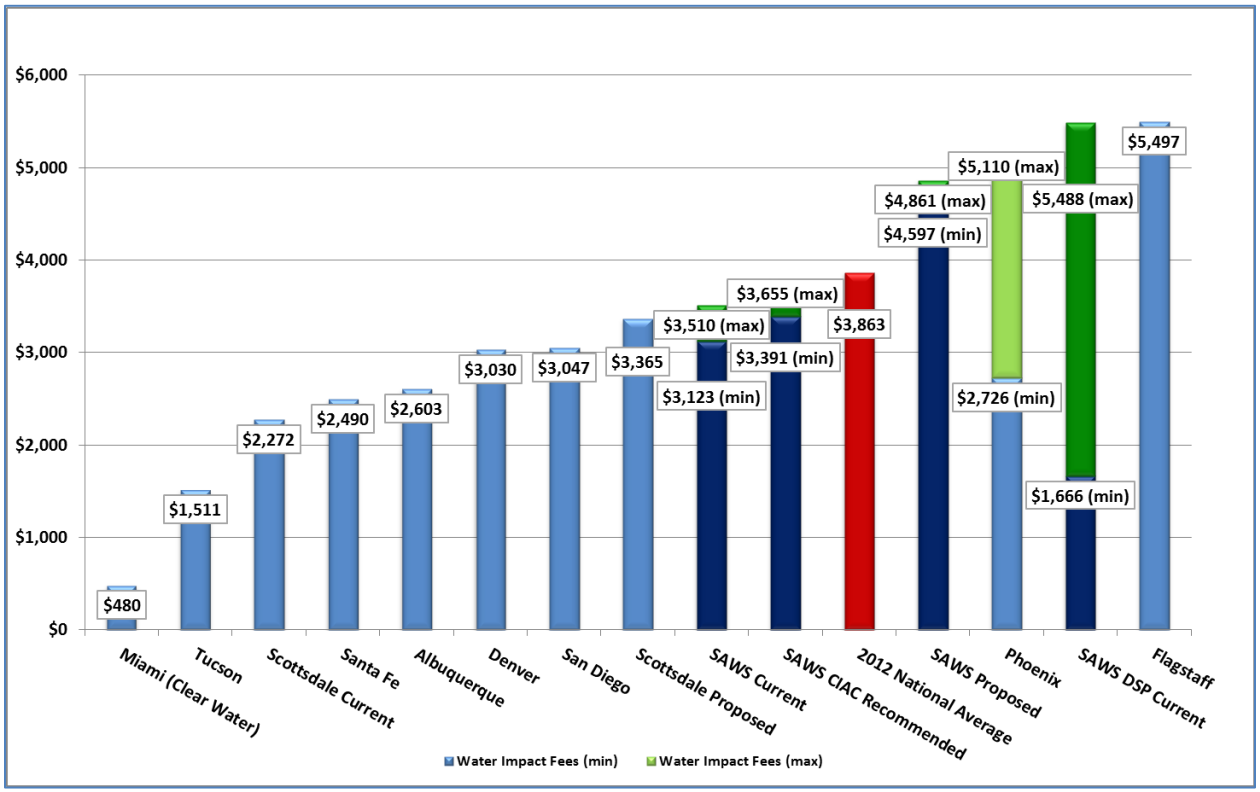
APPENDIX B: Impact Fee Survey of Texas Cities



Comparison to other Texas utilities – water and wastewater combined

SAWS Current is the impact fees in effect as of March 6, 2014. SAWS CIAC recommended are the impact fees recommended with this report. SAWS proposed is the minimum and maximum calculated impact fees with this report. SAWS DSP Current are the Bexar Met impact fees with SAWS sewer impact fees as of March 6, 2014. SARA is the impact fees with SAWS water service as of March 6, 2014.

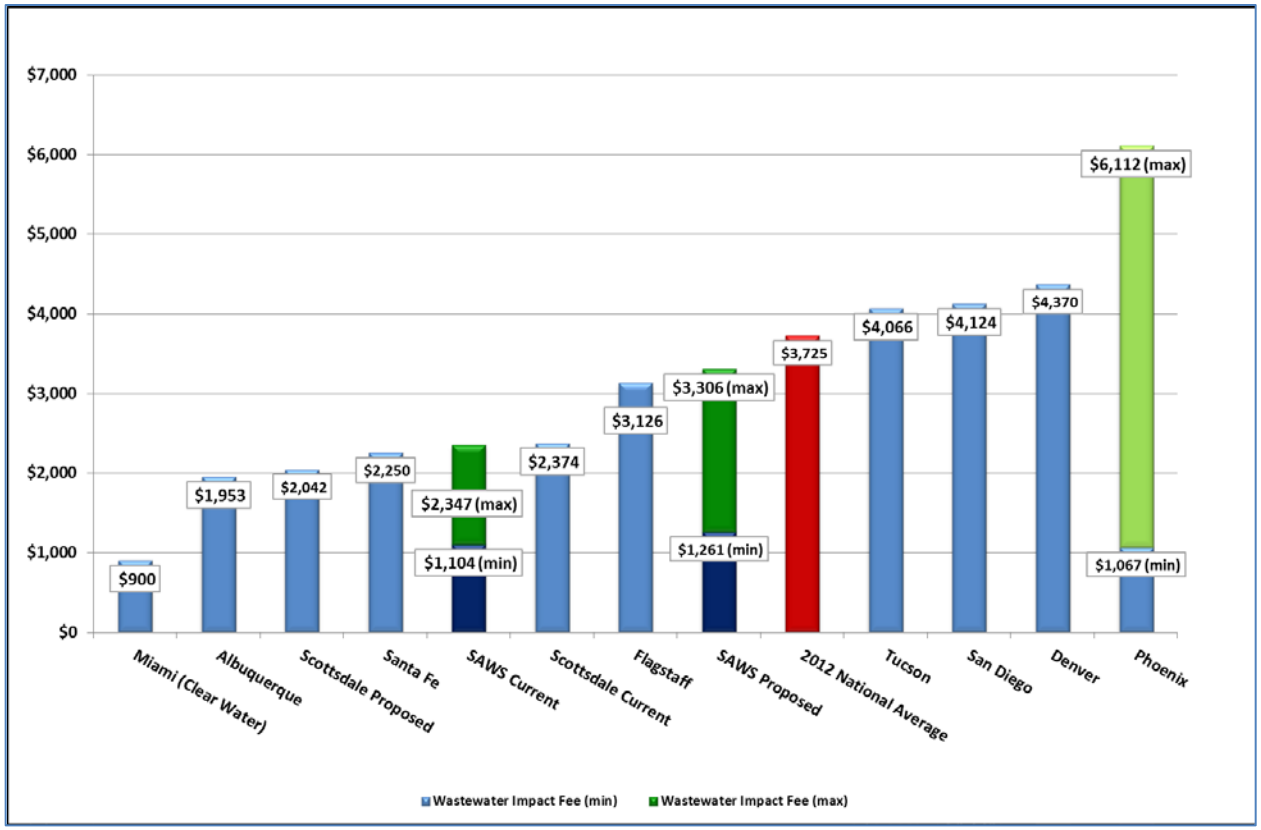
APPENDIX B: Impact Fee Survey of U.S. Cities



Comparison to other U.S. utilities – water

SAWS Current is the impact fees in effect as of March 6, 2014. SAWS CIAC recommended is the impact fees recommended with this report. SAWS proposed are the minimum and maximum calculated impact fees with this report. SAWS DSP Current is the Bexar Met impact fees as of March 6, 2014.

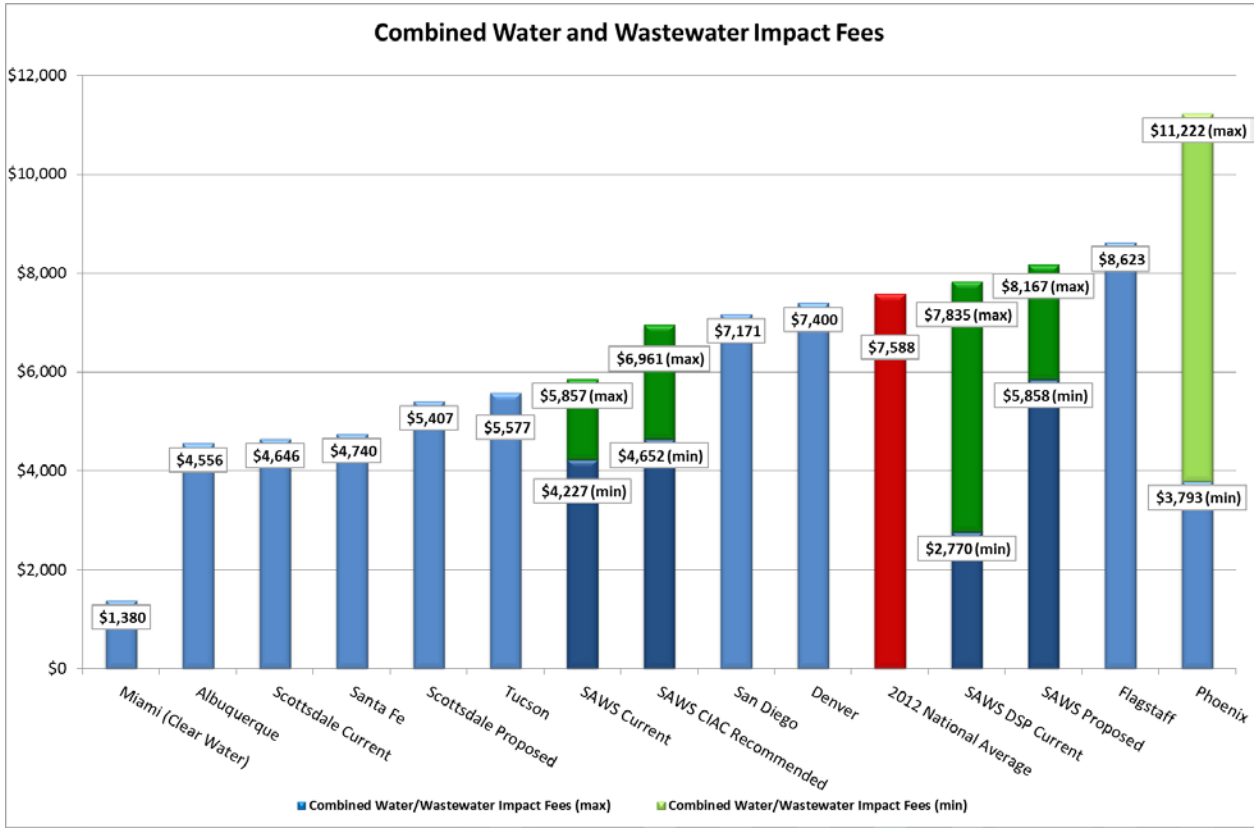
APPENDIX B: Impact Fee Survey of U.S. Cities



Comparison to other U.S. utilities – wastewater

SAWS Current is the impact fees in effect as of March 6, 2014. SAWS CIAC recommended is the impact fees recommended with this report. SAWS proposed is the minimum and maximum calculated impact fees with this report.

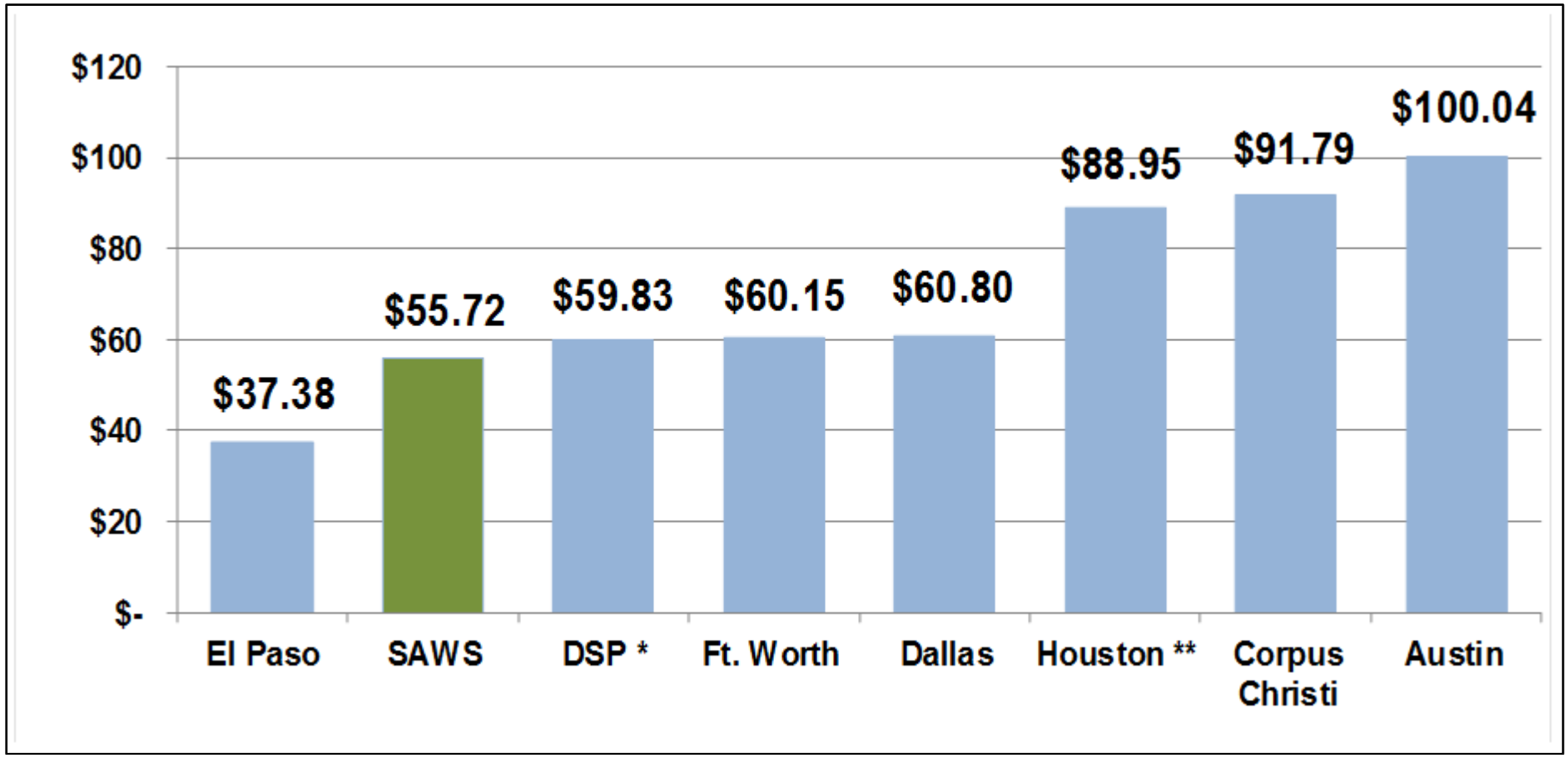
APPENDIX B: Impact Fee Survey of U.S. Cities



Comparison to other U.S. utilities – water and wastewater combined

SAWS Current is the impact fees in effect as of March 6, 2014. SAWS CIAC recommended are the impact fees recommended with this report. SAWS proposed is the minimum and maximum calculated impact fees with this report. SAWS DSP Current are the Bexar Met impact fees with SAWS sewer impact fees as of March 6, 2014.

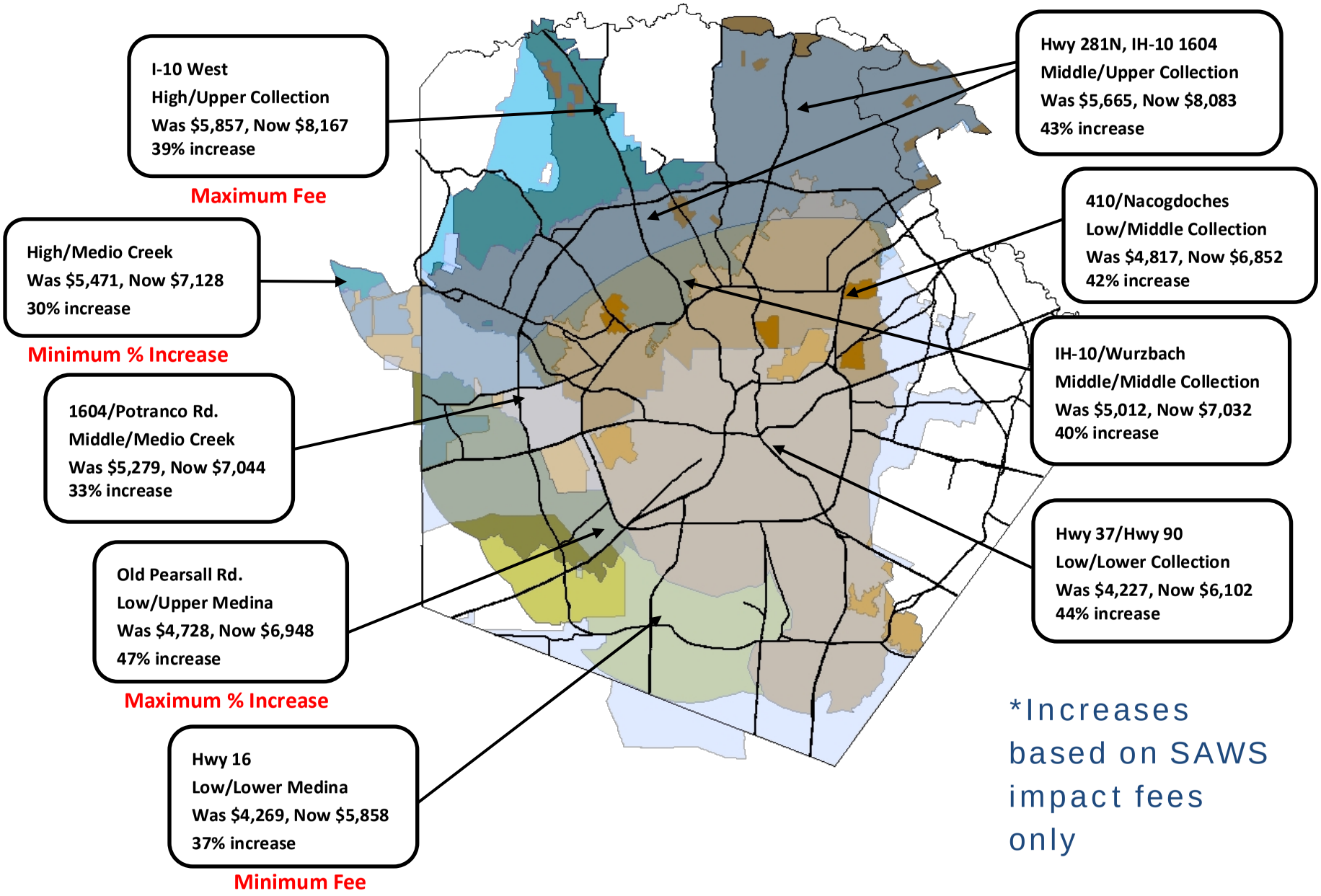
APPENDIX C: SAWS Average Residential Bills Compared to Major Texas Cities



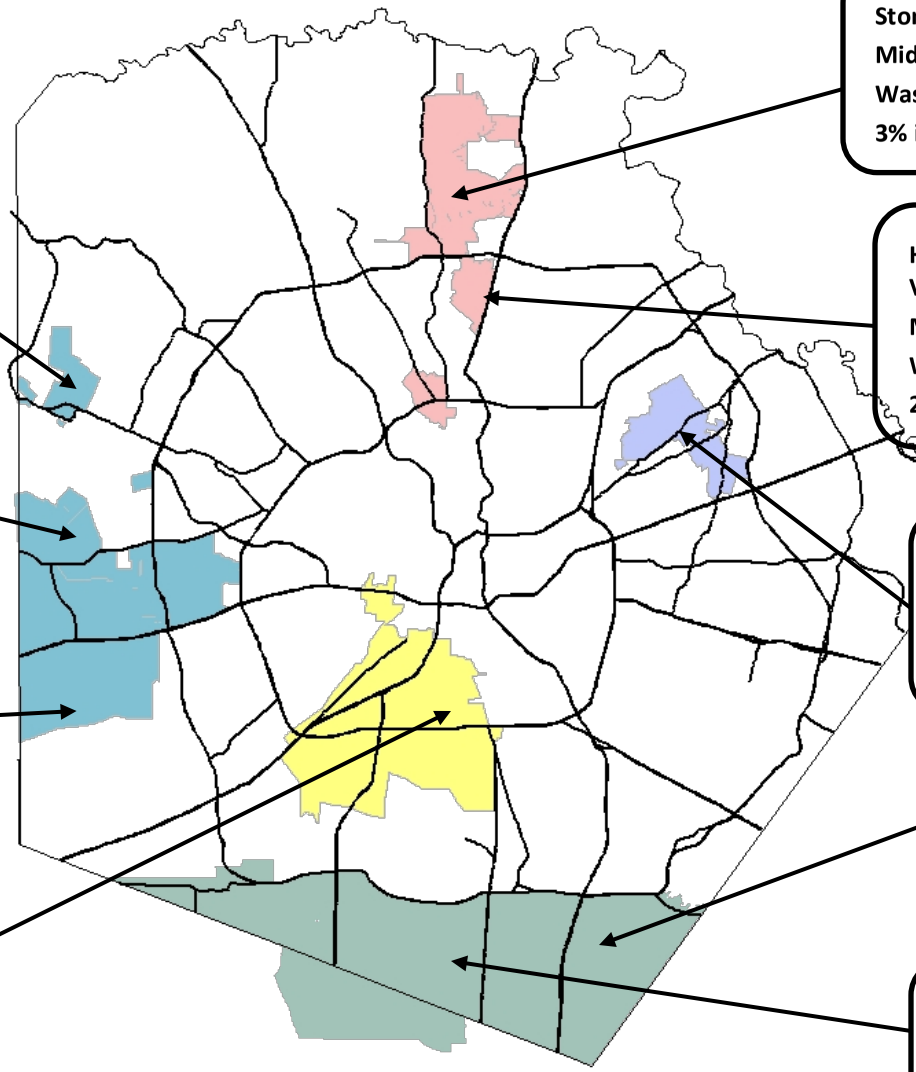
Monthly charges as of January 2014, Based on 7,788 Gal. Water (Standard)/6,178 Gal. Wastewater. Includes EAA and TCEQ Fees.

* DSP monthly charge total includes $33.03 in DSP water charges and $26.80 in SAWS sewer charges
** Houston wastewater charges based solely on water usage

APPENDIX D: Maximum Calculated Impact Fees by Service Area



APPENDIX E: Bexar Met (DSP) Maximum Calculated Impact Fees by Service Area



Stone Oak
Middle/Upper Collection
Was $7,835, Now $8,083
3% increase

Northwest
High/Upper Collection
Was $6,959, Now $8,167
17% increase

Hollywood Park/Hill Country Village
Middle/Middle Collection
Was $7,182, Now $7,032
2% decrease

Northwest
Middle/Medio Creek
Was $6,573, Now $7,044
7% increase

Northeast
Low/Middle Collection
Was $3,360, Now $6,852
104% increase

Northwest
Middle/Upper Medina
Was $6,217, Now $7,128
15% increase

Southeast
Low/Lower Collection
Was $3,395, Now $6,102
80% increase

Southside
Low/Lower Collection
Was $3,494, Now $6,102
75% increase

Southeast
Low/Lower Medina
Was $3,437, Now $5,858
70% increase

*All fees assume SAWS sewer customer and Bexar Met water customer.

Capital Improvements Advisory Committee

Arlene B. Fisher
District 1

Robert Hahn
District 7

Susan M. Wright
District 2

Mark Johnson
District 8
Vice-Chair

Norman T. Dugas
District 3

James Garcia
District 9

Michael W. Cude
District 4

Daniel D. Kossl
District 10
Chair

Michael E. Martinez
District 5

Amy Hardberger
ETJ

Michael Hogan
District 6

RESOLUTION NO. 14-129

OF THE SAN ANTONIO WATER SYSTEM BOARD OF TRUSTEES ACCEPTING THE 2014 – 2023 LAND USE ASSUMPTIONS PLAN, THE WATER DELIVERY, WATER SUPPLY AND WASTEWATER CAPITAL IMPROVEMENTS PLANS, AND THE MAXIMUM IMPACT FEE CALCULATIONS FOR WATER DELIVERY, WATER SUPPLY, AND WASTEWATER; AUTHORIZING THAT THE PLAN BE FORWARDED TO THE CITY COUNCIL OF THE CITY OF SAN ANTONIO FOR APPROVAL; RECOMMENDING THAT THE CITY COUNCIL APPROVE AND ADOPT THE 2014 – 2023 LAND USE ASSUMPTIONS PLAN, THE WATER DELIVERY, WATER SUPPLY AND WASTEWATER CAPITAL IMPROVEMENTS PLANS, AND THE MAXIMUM IMPACT FEE CALCULATIONS FOR WATER DELIVERY, WATER SUPPLY, AND WASTEWATER; FINDING THE RESOLUTION TO HAVE BEEN CONSIDERED PURSUANT TO THE LAWS GOVERNING OPEN MEETINGS; PROVIDING A SEVERABILITY CLAUSE; AND ESTABLISHING AN EFFECTIVE DATE

WHEREAS, Chapter 395 of the Local Government Code of the State of Texas requires municipalities to develop a Land Use Assumptions Plan and Capital Improvements Plan as part of the impact fee development process; and

WHEREAS, Chapter 395 of the Local Government Code requires that impact fees must be updated every five years. The current impact fees for water delivery, water supply and wastewater were approved by the San Antonio City Council in May 2011; and

WHEREAS, the San Antonio Water System is integrating the former Bexar Metropolitan Water District (the District Special Project (DSP)), and the BexarMet impact fees require update by June 2014, requiring that the impact fees for the integrated water system be updated at this time; and

WHEREAS, the City Council of the City of San Antonio has established a Capital Improvements Advisory Committee and charged it with overseeing the development of a Land Use Assumptions Plan, Capital Improvements Plan and recommending maximum allowable impact fees; and

WHEREAS, the Capital Improvements Advisory Committee, with comments, has accepted the proposed 2014-2023 Land Use Assumptions Plan, Water Delivery, Water Supply, and Wastewater Capital Improvements Plans and the Maximum Impact Fee Calculations for Water Delivery, Water Supply, and Wastewater as described in Attachment I and recommend approval by the City Council of the City of San Antonio; and

WHEREAS, the San Antonio Water System Board of Trustees desires (i) to accept the 2014 – 2023 Land Use Assumptions Plan, the Water Delivery, Water Supply and Wastewater Capital Improvements Plans, and the Maximum Water Delivery, Water Supply, and Wastewater Impact Fee Calculations, (ii) to authorize that the 2014 – 2023 Land Use Assumptions Plan, the Water Delivery, Water Supply and Wastewater Capital Improvements Plans, and the Maximum Water Delivery, Water Supply, and Wastewater Impact Fee Calculations as described herein be forwarded to the City Council of the City of San Antonio for approval, and (iii) to recommend that the City Council approve and adopt the 2014 – 2023 Land Use Assumptions Plan, the Water Delivery, Water Supply and Wastewater Capital Improvements Plans, and the Maximum Water Delivery, Water Supply, and Wastewater Impact Fee Calculations; now therefore:

BE IT RESOLVED BY THE SAN ANTONIO WATER SYSTEM BOARD OF TRUSTEES:

1. That the 2014 – 2023 Land Use Assumptions Plan, the Water Delivery, Water Supply and Wastewater Capital Improvements Plans, and the Maximum Water Delivery, Water Supply, and Wastewater Impact Fee Calculations are hereby accepted by the San Antonio Water System Board of Trustees.

2. That it is hereby directed that the 2014 – 2023 Land Use Assumptions Plan, the Water Delivery, Water Supply and Wastewater Capital Improvements Plans, and the Maximum Water Delivery, Water Supply, and Wastewater Impact Fee Calculations be forwarded to the City Council of the City of San Antonio as described in Attachment I and attached hereto and incorporated herein for all purposes.

3. That the San Antonio Water System staff is directed to present the 2014 – 2023 Land Use Assumptions Plan, the Water Delivery, Water Supply and Wastewater Capital Improvements Plans, and the Maximum Water Delivery, Water Supply, and Wastewater Impact Fee Calculations to the City Council of the City of San Antonio for approval.

4. That the San Antonio Water System Board of Trustees hereby recommends that the City Council of the City of San Antonio approve and adopt the 2014 – 2023 Land Use Assumptions Plan, the Water Delivery, Water Supply and Wastewater Capital Improvements Plans, and the Maximum Water Delivery, Water Supply, and Wastewater Impact Fee Calculations.

5. It is officially found, determined and declared that the meeting at which this resolution is adopted was open to the public, and that public notice of the time, place and subject matter of the public business to be conducted at such meeting, including this resolution, was given to all as required by the Texas Codes Annotated, as amended, Title 5, Chapter 551, Government Code.

6. If any part, section, paragraph, sentence, phrase or word of this resolution is for any reason held to be unconstitutional, illegal, inoperative or invalid, or if any exception to or limitation upon any general provision herein contained is held to be unconstitutional, illegal, invalid or ineffective, the remainder of this resolution shall nevertheless stand effective and valid as if it had been enacted without the portion held to be unconstitutional, illegal, invalid or ineffective.

7. This resolution becomes effective immediately upon its passage.

PASSED AND APPROVED this 5th day of May, 2014.

Berto Guerra, Jr., Chairman

ATTEST:

Patricia E. Merritt

Patricia E. Merritt, Secretary

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SAN ANTONIO EXPRESS NEWS
AFFIDAVIT OF PUBLICATION

STATE OF TEXAS:
COUNTY OF BEXAR

Before me, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared: Lynette Nelson, who after being duly sworn, says that she is the BOOKKEEPER of THE HEARST CORPORATON (SAN ANTONIO EXPRESS-NEWS DIVISION), a daily newspaper published in Bexar County, Texas and that the publication, of which the annexed is a true copy, was published to wit:

Customer ID: 715731
Customer Name: Saws
Order ID: 2570021

Publication	Pub Date
EN Classified	05-APR-14

Lynette Nelson

Lynette Nelson
Bookkeeper

Sworn and subscribed to before me, this 7 **day of** April **A.D.** 2014

Notary public in and for the State of Texas

Olivia D. Chaverria

OLIVIA D. CHAVERRIA
MY COMMISSION EXPIRES
July 17, 2014

Attach Ad Here

SCHNAUZER WHT & GRAY, 4yrs F, Chipped. Bulverde. no tags, docked tail. "Chloe". Call Patti 210-872-4995

CAT Lg M, solid grey "Wulfy", last seen Northern Hills Golfcourse 210-784-6028

Found

DOG Chihuahua mix, near Blanco & Woodlawn,no collar/chip.808-217-6374

PEKINGNESE NW side. 210-696-3780

PETS

The City of San Antonio now has Litter Permit requirement for residents with dogs and cats that plan to sell, trade or give away their pups/kittens. The permit requirement applies to advertisers who reside in the city limits of San Antonio only. The Litter Permit must be prominently displayed in the advertisement. Failure to comply with the ordinance could result in a fine up to $500.

It is in violation of the "City of San Antonio Animal Code of Prohibited Species" to own certain animals with in the city limits. To obtain a litter permit application or if you have any questions about complying with the City Animal codes we suggest going online to www.saacs.net or call Animal Care Services at 210-207-6654.

Cats

CALICO, 2yr, F, Needs lots of Att., Ptyful/Frindly. Free 2 Gd Hm. 323-8064

CAT M, 8 mos, blk/wht, neut.,shots very playful & sweet $25. 210-653-5898

PERSIAN KITTENS, 8 wks, Pure Breed $300, 210-639-7036

SIAMESE Kittens, Litter Trained, Shots, Guar. Ready. 210-679-7393

Dogs

AKITA AKC Pup M, DOB 7/1, shots, $350. 210-490-7425/210-800-6623

BASSET HOUND, Puppies, $500, AKC, Tri-Color, Taking Deposit 830-393-8283

BICHONS, AKC + Caliver = Cavachon bichonandwestiesrus.com 325-265-4414. Lic#140

CHIHUAHUA Cream Female 1yr 2lbs Shots, Wormed 210-872-2829

ENGLISH. BULLDOG AKC Pups M/F, 6wks, many colors, Shots 956-337-2027

GERMAN SHEPHERD pups, 6wks, S/W Vet Chk'd, $380, 210-393-4064

GERMAN SHEPHERD pups, White, AKC Reg, S/W, $500, 210-649-1389

Legals/Public Notices

GOLDEN RETRIEVER AKC Puppies, 2M/1F, S/W, Parents on site, Ready Now! $650. 210-501-6286

LAB PUPS AKC OFA CERF. Choc. Dickendall Eng. Line. S/W, Dewclawed. Vet Ck $850, Ready 4/18 830-796-8667

Legals/Public Notices

Shots/Wrmd. 6wks, M-$450 F-$350. Fawn, Blk Mask. CASH. 210-771-1001

NEAPOLITAN Mastiff AKC Pups 8weeks Call Jay 210-391-1571

PIT BULL, Pups, 2-M, 2F, Shots, Parents on Site, Call Only. 210-723-9280

Legals/Public Notices

$550-Up, 210-273-9223

SHAR PEI Puppies 4F/2M, Fawn w/mask $950. 210-995-7776

SHIH TZU pups, Fluffy& Playful, shots/wrmed, $400-450, 830-393-8316

To Advertise: 210-250-2345

Legals/Public Notices

YORKES Absolutely adorable, M/F, Teeny weeny. Gorgeous! 710-4087

YORKIE AKC F Tcup 11mos, less than 3lbs, Current Shots, Healthy, Perfect Breeding Dog $990. 210-362-0520

To Advertise: 210-250-2345

Legals/Public Notices

PUBLIC NOTICE

NOTICE OF PUBLIC HEARING ON AMENDMENT OF IMPACT FEES, INCLUDING UPDATES TO LAND USE ASSUMPTIONS, CAPITAL IMPROVEMENTS PLANS AND THE MAXIMUM IMPACT FEES FOR WATER SUPPLY, WATER FLOW, WATER SYSTEM DEVELOPMENT, WASTEWATER TREATMENT AND WASTEWATER COLLECTION

MAY 8, 2014 • 9:00 a.m.
Municipal Plaza Building, City Council Chambers
103 Main Plaza, San Antonio, Texas 78205

The purpose of the hearing is to consider the five (5) year updates to the land use assumptions, capital improvements plan, and the imposition of maximum impact fees for water supply, water flow, water system development, wastewater treatment and wastewater collection.

PROPOSED MAXIMUM IMPACT FEES

Water Supply	$2,796
Water Flow	$1,182
System Development	
High	$883
Middle	$799
Low	$619

Wastewater Treatment	
Medio Creek	$1,429
Dos Rios/Leon Creek	$786

Wastewater Collection	
Medio Creek	$838
Upper Medina	$1,565
Lower Medina	$475
Upper Collection	$2,520
Middle Collection	$1,469
Lower Collection	$719

Any member of the public has the right to appear at the hearing and present evidence for or against the Land Use Assumptions, the Capital Improvements Plan or Maximum Impact Fees.

For information, please call the San Antonio Water System at 210-233-3451. Copies of the reports have been filed with, and are available at, the City Clerk's Office and can be viewed on the SAWS website at www.saws.org/business_center/developer/impactfees/

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LOST & FOUND

Lost

LOST OR FOUND A PET? Please call Man & Beast Inc. FREE, 590-PETS.

SCHNAUZER WHT & GRAY, 4yrs F, Chipped. Bulverde. no tags, docked tail. "Chloe". Call Patti 210-872-4995

CAT Lg M, solid grey "Wulfy", last seen Northern Hills Golfcourse 210-784-6028

Found

DOG Chihuahua mix, near Blanco & Woodlawn,no collar/chip.808-217-6374

PEKINGNESE NW side. 210-696-3780

PETS

The City of San Antonio now has Litter Permit requirement for residents with dogs and cats that plan to sell, trade or give away their pups/kittens. The permit requirement applies to advertisers who reside in the city limits of San Antonio only. The Litter Permit must be prominently displayed in the advertisement. Failure to comply with the ordinance could result in a fine up to $500.

It is in violation of the "City of San Antonio Animal Code of Prohibited Species" to own certain animals with in the city limits. To obtain a litter permit application or if you have any questions about complying with the City Animal codes we suggest going online to www.saacs.net or call Animal Care Services at 210-207-6654.

Cats

CALICO, 2yr, F, Needs lots of Att., Plyful/Frindly. Free 2 Gd Hm. 323-8064

CAT M, 8 mos, blk/wht, neut.,shots very playful & sweet $25. 210-653-5898

PERSIAN KITTENS, 8 wks, Pure Breed $300, 210-639-7036

SIAMESE Kittens, Litter Trained, Shots, Guar. Ready. 210-679-7393

Dogs

AKITA AKC Pup M, DOB 7/1, shots, $350. 210-490-7425/210-800-6623

BASSET HOUND, Puppies, $500, AKC, Tri-Color, Taking Deposit 830-393-8283

BICHONS, AKC + Caliver = Cavachon bichonandwestiesrus.com 325-265-4414. Lic#140

CHIHUAHUA Cream Female 1yr 2lbs Shots, Wormed 210-872-2829

Dogs

CORGIS Pembroke puppies, AKC, 432-292-4520

DACHSHUND AKC Young Adults $250. S/W, chocolate & reds. 210-289-8694

DACHSHUND Mix Rescued M 1yr, Vet Ckd, Chip. Adopt Fee$81. 210-326-2355

ENGLISH BULLDOG AKC Pups M/F, 6wks, many colors, Shots 956-337-2027

GERMAN SHEPHERD pups, 6wks, S/W Vet Chk'd, $380, 210-393-4064

GERMAN SHEPHERD pups, White, AKC Reg, S/W, $500, 210-649-1389

Legals/Public Notices

Dogs

GERMAN SHORTHAIRED POINTER pups, AKC, Dew claws rmvd, tails docked, 3F & 5M, $500. 210-286-3709. cmdyer2001@yahoo.com

GERMAN SHORTHAIR POINTER, AKC 7wks, 1st s/w, 3-F $500ea, 3-M $400ea 254-289-5996 www.gotbirdskennel.com

GOLDEN RETRIEVER AKC Puppies, 2M/1F, S/W, Parents on site, Ready Now! $650. 210-501-6286

LAB PUPS AKC OFA CERF. Choc. Dickendall Eng. Line. S/W, Dewclawed. Vet Ck $850, Ready 4/18 830-796-8667

Legals/Public Notices

Dogs

GOLDEN RETREIVER AKC Easter Pups Ready 4/18, S/W, $800 830-708-4756

MALTESE POODLE Mix. Choc/White. Curly hair. Free to loving home. 2 yrs, F. 18lbs. 210-445-3418 or 210-257-0155

MASTIFF Pure breed, Daniff. 4F/4M. Shots/Wrmd. 6wks, M-$450 F-$350. Fawn, Blk Mask. CASH. 210-771-1001

NEAPOLITAN Mastiff AKC Pups 8weeks Call Jay 210-391-1571

PIT BULL, Pups, 2-M, 2F, Shots, Parents on Site, Call Only. 210-723-9280

Legals/Public Notices

Dogs

POODLES CKC, S/W, $150-$300. 210-667-1295

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SCHNAUZER Toy AKC Pups, Vet Chkd $550-Up, 210-273-9223

SHAR PEI Puppies 4F/2M, Fawn w/mask $950. 210-995-7776

SHIH TZU pups, Fluffy& Playful, shots/wrmed, $400-450, 830-393-8316

To Advertise: 210-250-2345

Legals/Public Notices

Dogs

SHIHTZU, Registered Pups, 8wks, W/S, 830-549-7338 or LM 830-372-9031

SHIH TZU Toy, M Pup, Reg'd, 6wks, S/W, $350. 210-658-3927

WESTIES- Reg'd, Beautiful, $1000-M, $1200-F, Serious only. 512-227-4679,

YORKES Absolutely adorable, M/F, Teeny weeny. Gorgeous! 710-4087

YORKIE AKC F Tcup 11mos, less than 3lbs, Current Shots, Healthy, Perfect Breeding Dog $990. 210-362-0520

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MAY 8, 2014 • 9:00 a.m.
Municipal Plaza Building, City Council Chambers
103 Main Plaza, San Antonio, Texas 78205

The purpose of the hearing is to consider the five (5) year updates to the land use assumptions, capital improvements plan, and the imposition of maximum impact fees for water supply, water flow, water system development, wastewater treatment and wastewater collection.

PROPOSED MAXIMUM IMPACT FEES

Water Supply	$2,796	Wastewater Treatment		Wastewater Collection	
Water Flow	$1,182	Medio Creek	$1,429	Medio Creek	$838
System Development		Dos Rios/Leon Creek	$786	Upper Medina	$1,565
High	$883			Lower Medina	$475
Middle	$799			Upper Collection	$2,520
Low	$619			Middle Collection	$1,469
				Lower Collection	$719

Any member of the public has the right to appear at the hearing and present evidence for or against the Land Use Assumptions, the Capital Improvements Plan or Maximum Impact Fees.

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CITY OF SAN ANTONIO
INTERDEPARTMENTAL CORRESPONDENCE
CITY MANAGER'S OFFICE

TO: Sheryl Sculley, City Manager

FROM: Ben Gorzell Jr., Chief Financial Officer

COPIES: Mayor and City Council; Robbie Greenblum, City Attorney

SUBJECT: SAWS Impact Fee Recommendation

DATE: May 27, 2014

BACKGROUND:

This report is an addendum to memo 14-1055 on the May 29, 2014 Council agenda.

On May 8, 2014, the City Council held a public hearing to consider public comments on updated impact fees applicable to the San Antonio Water System (SAWS) service area. In addition, a "B" session briefing regarding this matter was held on April 2, 2014. Chapter 395 of the Texas Local Government Code (Chapter 395) establishes the requirements and process that must be followed if a municipality is to assess and collect impact fees. The requirements include that the Land Use Assumptions Plan (LUAP) and the Capital Improvements Plan (CIP) be updated at least every five years. In addition, Chapter 395 requires the establishment of a Capital Improvements Advisory Committee (CIAC) to advise City Council on the development and implementation of impact fees. The current LUAP, CIP, and impact fees for water delivery, water supply and wastewater were last approved by City Council on May 19, 2011. Due to the integration of SAWS and BexarMet, new impact fees were required to be calculated since the last BexarMet calculation was completed in June 2009.

SAWS staff and the CIAC agreed on the contents of the LUAP and CIP as well as the calculation of the maximum water delivery, water supply, and wastewater impact fees. With regards to the whether to charge the maximum calculated water supply impact fee, the CIAC determined that it was unfair to allocate 100% of the capital costs of new water supply projects to new development and recommended charging a water supply impact fee of $1,590 per equivalent dwelling unit (EDU) that was less than the $2,796 fee recommended by SAWS staff.

RECOMMENDATION:

During the April 2nd and May 8th Council meetings, Council members provided feedback regarding the effective date and the amount of the water supply impact fee as well as the potential effect that the fee might have on current development projects.

SAWS and COSA staffs discussed potential solutions to address City Council's concerns and developed the following recommendations:

- The water delivery and wastewater impact fees would be set at the CIAC and SAWS recommended levels effective June 9, 2014. The water supply impact fee would be set at the CIAC recommended level of $1,590 effective June 9, 2014 and would increase on June 1, 2015 to the SAWS recommended level of $2,796. Table I contains a listing of the proposed fees compared to the current fees.

Table I – Proposed Impact Fees

	Impact Fee ($/EDU)			
	2011	2014	Change	% Change
Water Supply*	$ 1,297	**$ 1,590**	$ 293	22.59%
Water Flow	$ 1,247	**$ 1,182**	$ (65)	-5.21%
Water System Development (Total)				
High Elevation	$ 966	**$ 883**	$ (83)	-8.59%
Middle Elevation	$ 774	**$ 799**	$ 25	3.23%
Low Elevation	$ 579	**$ 619**	$ 40	6.91%
Wastewater Treatment (Total)				
Medio Creek	$ 1,379	**$ 1,429**	$ 50	3.63%
Leon Creek/Dos Rios	$ 552	**$ 786**	$ 234	42.39%
Wastewater Collection (Total)				
Medio Creek	$ 582	**$ 838**	$ 256	43.99%
Upper Medina	$ 1,053	**$ 1,565**	$ 512	48.62%
Lower Medina	$ 594	**$ 475**	$ (119)	-20.03%
Upper Collection	$ 1,795	**$ 2,520**	$ 725	40.39%
Middle Collection	$ 1,142	**$ 1,469**	$ 327	28.63%
Lower Collection	$ 552	**$ 719**	$ 167	30.25%

*The Water Supply Impact Fee will increase to the SAWS recommended amount of $2,796 effective June 1, 2015, an increase of 75.8% from the CIAC recommended amount of $1,590.

To continue to incentivize development in the Inner City Reinvestment Infill Policy (ICRIP) area, SAWS and COSA staff are recommending that the allocation for impact fee waivers from FY 2015 to FY 2020 be increased to $20.0 million from the existing level of $8.0 million (see Table II below).

Table II - Proposed vs. Current Impact Fee Waiver Allocation (FY15 – FY20)

	FY 15	FY 16	FY 17	FY 18	FY 19	FY20	Total
Proposed	$5.0M	$3.0M	$3.0M	$3.0M	$3.0M	$3.0M	$20.0M

Current	$2.0M	$2.0M	$1.0M	$1.0M	$1.0M	$1.0M	$ 8.0M
Difference	$3.0M	$1.0M	$2.0M	$2.0M	$2.0M	$2.0M	$12.0M

GG
5/29/14
Item No. 5

AN ORDINANCE 2014-05-29-0363

AUTHORIZING UPDATES AND AMENDMENTS TO THE LAND USE ASSUMPTIONS PLAN, CAPITAL IMPROVEMENTS PLAN, AND SAN ANTONIO WATER SYSTEM (SAWS) IMPACT FEES BY SERVICE CATEGORY.

* * * * * *

WHEREAS, the San Antonio Water System ("SAWS") operates a combined water and wastewater utility system on behalf of the City of San Antonio, which serves approximately 469,000 water and 418,0000 wastewater customers in the San Antonio metropolitan area; and

WHEREAS, Chapter 395 of the Local Government Code ("Chapter 395") establishes the requirements and the process that the City of San Antonio must follow in order to assess and collect impact fees; and

WHEREAS, under Chapter 395 "impact fees" are defined as assessments imposed by a political subdivision against new development in order to generate revenue for funding or recouping the costs of capital improvements or facility expansions necessitated by and attributable to the new development; and

WHEREAS, the calculation of impact fees is based on the Land Use Assumptions Plan ("LUAP") and Capital Improvements Plan ("CIP") for the SAWS service area; and

WHEREAS, the purpose of the LUAP is to describe the service area subject to impact fees and establish a ten year forecast of expected changes in land uses, densities, intensities, and population in the service area; while the CIP provides an overview of the parts and costs of the capital improvements and facility expansions necessary to support new development in the service area based on the land use assumptions; and

WHEREAS, Chapter 395 requires impact fees to be updated every five years – the SAWS impact fees for several water and wastewater categories were last approved by the City Council on May, 19, 2011 by Ordinance No. 2011-05-19-0397; and

WHEREAS, this request comes before the City Council at this time as a result of the integration of the former Bexar Metropolitan Water District ("BexarMet" also referred to as the "District Special Project" or "DSP") into the SAWS service area whose impact fees were last updated on June 30, 2009 by the BexarMet Board of Directors pursuant to the "Bexar Metropolitan Water District Impact Fee Study - 2009 Impact Fee Update" (attached as **Exhibit A**); and

WHEREAS, with the assistance of Red Oak Consulting, a professional engineering firm, SAWS developed the updated 2014-2023 LUAP and CIP (collectively the "Plans"), and maximum impact fee calculations related to the following five service categories: (i) water supply; (ii) water flow; (iii) water system development; (iv) wastewater collection; and (v) wastewater treatment (the SAWS 2014 Impact Fee Report is attached as **Exhibit B**); and

WHEREAS, SAWS water service areas experienced changes as a result of the incorporation of five DSP service areas and amendments in service territory to several utility certificates of convenience and necessity ("CCNs") approved by state regulators since 2011, likewise, changes to the wastewater service areas resulted from CCN amendments, all of which are documented in the Plans along with other adjustments and corrections in methodology utilized in the last impact fee study; and

WHEREAS, the formula for calculating the maximum impact fees is prescribed by Chapter 395 as Maximum Impact Fee = [(Cost of Growth ÷ EDUs) – Rate Credit], where:

- "Cost of Growth" is the CIP capital cost attributed to additional infrastructure needed to serve new development (i.e., new customers) during the ten year forecast period
- "EDU" stands for "equivalent dwelling unit" and represents a new customer as measured by the demand of water flow needed by an average household
- "Rate Credit" is calculated as the projected rate revenue attributed to the EDUs added during the ten year forecast period and deducted from CIP capital costs

WHEREAS, the LUAP forecasts the following demand attributed to new development for the period 2014-2023:

- Water LUAP = 95,817 EDUs
- Wastewater LUAP = 95,589 EDUs

WHEREAS, the CIP identifies existing and future capital improvement projects necessary to serve new development during the period 2014-2023 totaling $731,331,289 and allocated as follows:

• Water Supply CIP	$282,391,017
• Water Delivery CIP	
o Flow	$121,466,247
o System Development	$73,696,321
• Wastewater CIP	
o Treatment	$86,683,969
o Collection	$167,093,735

WHEREAS, SAWS proposes the following maximum impact fees per EDU for the combined SAWS and DSP service territories taking into account the calculated rate credit and based on the previously established water and wastewater service areas (SAWS recommended impact fee schedule is attached as **Exhibit C**):

• Water Supply	$2,796
• Water Flow	$1,182
• Water System Development	
o High Elevation Service Area	$883
o Middle Elevation Service Area	$799
o Low Elevation Service Area	$619
• Wastewater Treatment	
o Medio Creek Service Area	$1,429

    - Leon Creek/Dos Rios Service Area $786
- Wastewater Collection
    - Medio Creek Collection Service Area $838
    - Medina Collection Area
        - Upper Collection Service Area $1,565
        - Lower Collection Service Area $475
    - Leon Creek/Dos Rios Collection Area
        - Upper Collection Service Area $2,520
        - Middle Collection Service Area $1,469
        - Lower Collection Service Area $719

WHEREAS, on May 5, 2014, the SAWS Board of Trustees adopted the updated 2014-2023 LUAP, CIP, and maximum impact fee calculations for all five impact fee categories, and by resolution forwarded the Plans and recommendations to the City Council in order for the City Council to proceed with notice of public hearing, receive public comment, and consider the Plans and maximum impact fees in accordance with Chapter 395 – the SAWS Board Resolution is attached as **Exhibit D**; and

WHEREAS, pursuant to Chapter 395, the Capital Improvements Advisory Committee ("CIAC") whose members are appointed by the City Council, reviewed and evaluated the Plans and maximum impact fee calculations produced by SAWS and issued its own recommendations which were incorporated into the report adopted by the SAWS Board on May 5, 2014 (see **Exhibit D**); and

WHEREAS, the CIAC approved of the SAWS updated 2014-2023 LUAP and CIP, and maximum impact fee calculation for water supply, water flow, water system development, wastewater treatment, and wastewater collection, but objected to charging the maximum calculated water supply impact fee (the CIAC recommended impact fee schedule is attached as **Exhibit E**) and made the following recommendations:

- Charge the water supply impact fee based on the average cost of existing and future capital projects which capacity is allocated to new growth
    - Proposed Water Supply Impact Fee - $1,590 per EDU
- City Council should consider the phase-in of new impact fees

WHEREAS, the process for updating the LUAP, CIP, and maximum impact fees outlined in Chapter 395 has been followed as outlined below:

- April 1, 2014 – the City Clerk received the SAWS 2014 *Water and Wastewater Facilities Land Use Assumptions Plan, Capital Improvements Plan, and Maximum Impact Fees Report* which has been publicly available at the City Clerk's Office and on the SAWS website at www.saws.org since that date;
- April 2, 2014 – SAWS briefed the City Council in "B" Session on the updates to the LUAP, CIP, and maximum impact fees (attached as **Exhibit F**)
- April 3, 2014 – the City Council passed an ordinance setting a public hearing on impact fees for May 8, 2014 (attached as **Exhibit G**)

- April 5, 2014 – notice of the public hearing was published in the San Antonio Express News (attached as **Exhibit H**)
- May 5, 2014 – the SAWS Board passed a resolution accepting and recommending that the City Council approve the updated LUAP, CIP, and maximum impact fees (see **Exhibit D**)
- May 8, 2014 – the City Council held a public hearing where it received public comments and the recommendations from SAWS and CIAC on the proposed updates to the LUAP, CIP, and maximum impact fees

WHEREAS, within 30 days following the public hearing, the City Council must approve or disapprove the proposed updates to the LUAP and CIP, and modification of the impact fees by service category; and

WHEREAS, on May 29, 2014 the City Council convened to consider adoption of the updates to the LUAP, CIP, and maximum impact fees; heard the analysis and recommendations of the Supervisor of Public Utilities (attached as **Exhibit I**); and heard public comments and the recommendations from SAWS and the CIAC; **NOW THEREFORE:**

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SAN ANTONIO:

SECTION 1. The SAWS 2014 *Water and Wastewater Facilities Land Use Assumptions Plan, Capital Improvements Plan, and Maximum Impact Fees Report* is hereby adopted as attached in Exhibit B and is incorporated into this Ordinance for all purposes.

SECTION 2. The updates and amendments to the 2014-2023 LUAP are hereby authorized and approved.

SECTION 3. The updates and amendments to the 2014-2023 CIP are hereby authorized and approved.

SECTION 4. The maximum legal calculation for the water supply, water flow, water system development, wastewater treatment, and wastewater collection impact fees related to the updated and amended 2014-2024 LUAP and CIP are hereby authorized and approved.

SECTION 5. The water supply impact fee will be phased-in over a one year period. Effective June 9, 2014, the water supply impact fee will be set at $1,590 per EDU (the amount recommended by CIAC) and it will increase to $2,796 per EDU effective June 1, 2015 (the maximum calculated impact fee recommended by SAWS). All other water delivery and wastewater impact fees will be set at the recommended levels agreed to by SAWS and CIAC effective June 9, 2014. The revised schedule of impact fees approved by this Ordinance is summarized below:

Table I – Approved SAWS Impact Fees (Effective on June 9, 2014)

	Impact Fee ($/EDU)			
	2011	2014	Change	% Change
Water Supply*	$ 1,297	**$ 1,590**	$ 293	22.59%
Water Flow	$ 1,247	**$ 1,182**	$ (65)	-5.21%
Water System Development (Total)				
High Elevation	$ 966	**$ 883**	$ (83)	-8.59%
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Lower Collection	$ 552	**$ 719**	$ 167	30.25%

*The Water Supply Impact Fee will increase to the SAWS recommended maximum calculated amount of $2,796 effective June 1, 2015.

SECTION 6. The City Council also authorizes funding for impact fee waivers in the amount of $20 million to be allocated over a six year period from fiscal year 2015 to fiscal year 2020 as follows:

	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	TOTAL
Approved	$5.0M	$3.0M	$3.0M	$3.0M	$3.0M	$3.0M	$20M
Current	$2.0M	$2.0M	$1.0M	$1.0M	$1.0M	$1.0M	$8.0M
Difference	$3.0M	$1.0M	$2.0M	$2.0M	$2.0M	$2.0M	$12M

The impact fee waiver program will be administered by the City consistent with the SAWS Impact Fee Waiver Guidelines approved by the City Council in Ordinance Nos. 2010-02-11-0116 and 2013-02-21-0137. For fiscal year 2015, $1.2 million is designated exclusively for waivers approved prior to June 9, 2014 and which are assessed by June 1, 2015, of which, any

amount not assessed does not roll over to the next fiscal year. If for some reason those assessed waivers exceed $1.2 million, SAWS will support the appropriate action to increase the allocation accordingly. For all other funding, up to $5 million of impact fee waivers not utilized during any fiscal year will roll over to the next fiscal year.

SECTION 7. The recitals set out above and all exhibits attached hereto are fully incorporated into this Ordinance.

SECTION 8. This Ordinance shall become effective immediately upon the passage by eight (8) votes of the City Council and if passed upon fewer than eight (8) votes after the tenth (10th) day after passage.

PASSED AND APPROVED, this 29th day of May 2014.

M A Y O R
Julián Castro

ATTEST:

Leticia M. Vacek, City Clerk

APPROVED AS TO FORM:

Robbie F. Greenblum, City Attorney