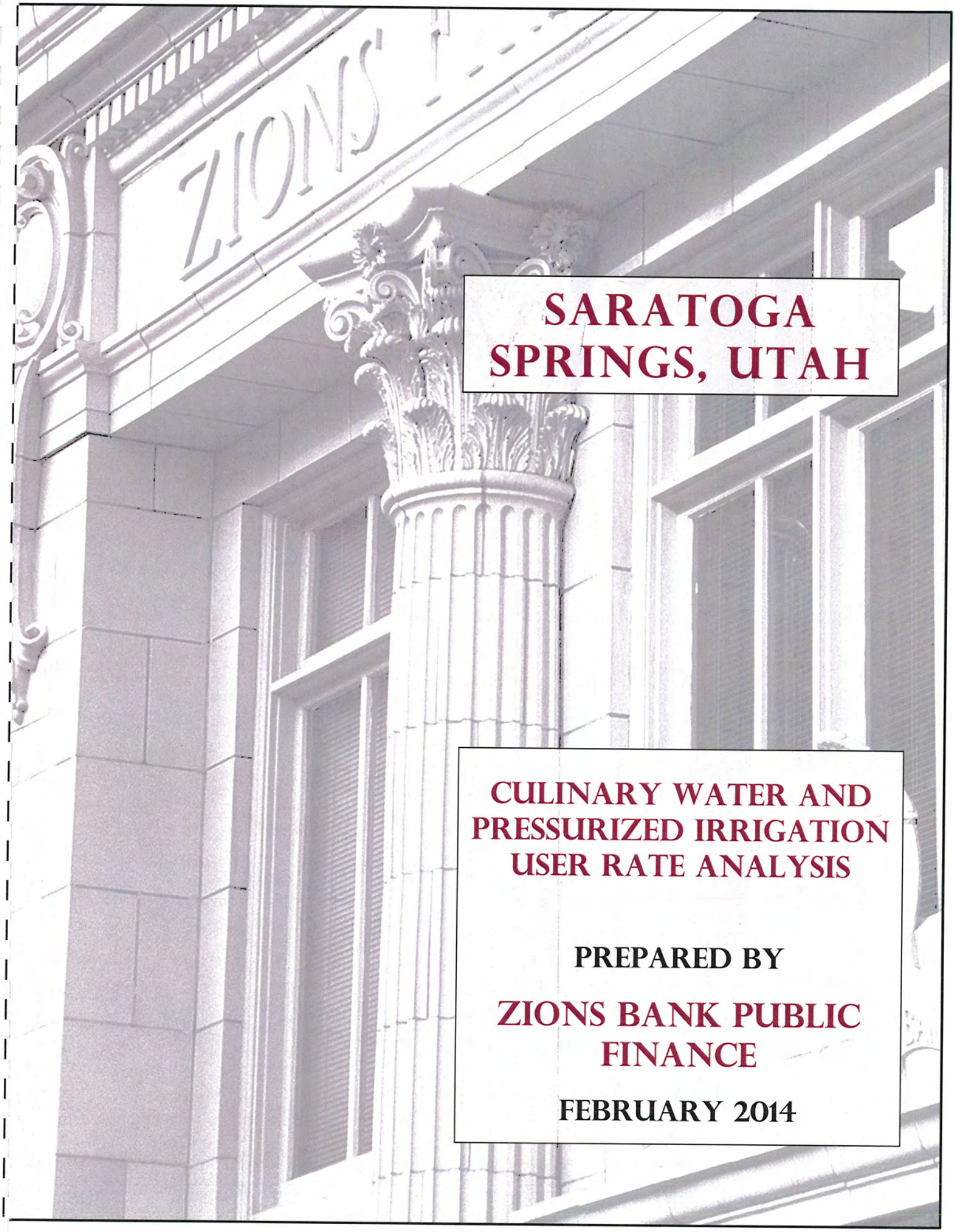

SARATOGA SPRINGS, UTAH

CULINARY WATER AND PRESSURIZED IRRIGATION USER RATE ANALYSIS

PREPARED BY

ZIONS BANK PUBLIC FINANCE

FEBRUARY 2014

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RATEPAYERS' OVERVIEW OF THE USER RATE ANALYSIS

WHY IS THE CITY PREPARING A USER RATE ADJUSTMENT?

The City of Saratoga Springs (the City) is a growing community with continual new development and many water projects yet to be constructed. This user rate adjustment has been prepared for the culinary water and pressurized irrigation (PI) water utilities. When setting user rates, consideration has been given to projects that will be funded with the City's impact fees, and the rates have been set to consider operations and maintenance expense, repair and replacement projects, and maintenance of bond coverage ratios and cash balances.

The intent of this rate analysis is to modify the existing culinary and PI water rates to ensure that user rates develop sufficient revenues to adequately fund the operations and maintenance of the systems while maintaining a fair fee structure for each utility.

The pressurized irrigation system is in need of many large projects over the next several years to develop the capacity and redundancy to reliably deliver water to its users. PI meters are planned to be installed within the next year and will cost approximately $2.8M. The meters will allow the City to bill according to pressurized irrigation usage which will help the City conserve water supplies and reduce operations costs. The City needs to carefully monitor rate revenues annually to be sure that the capital projects, outstanding and future debt service payments can be adequately funded and that the costs of operating the system are met.

WHO PREPARED THE USER RATE ANALYSIS?

Zions Bank Public Finance has been hired by the City to review the costs of the water utilities, make recommendations on how to best fund future capital projects, review the demands of each user class, and recommend a rate for each utility that will generate the funds needed. The professionals at Zions Bank have combined experience of 25 years in ratemaking work.

WHAT ARE UTILITY USER RATES?

Utility user rates are fees charged to users of each of the utilities. The utility rate studies follow the general methodologies prescribed by the American Water Works Association (AWWA). AWWA rate methodologies provide consistency and uniform reporting and documentation. The rate study follows the Cities budgetary formats and can easily be incorporated into budget documents. The intent of a user rate is to generate only enough to operate the system, build new or replacement capital projects, and maintain fair cash reserves to offset potential risks and unforeseen costs to the system. The intent for these user rates is not to create a profit for the City that can be spent elsewhere but rather ensure that each system is financial self-sufficient.

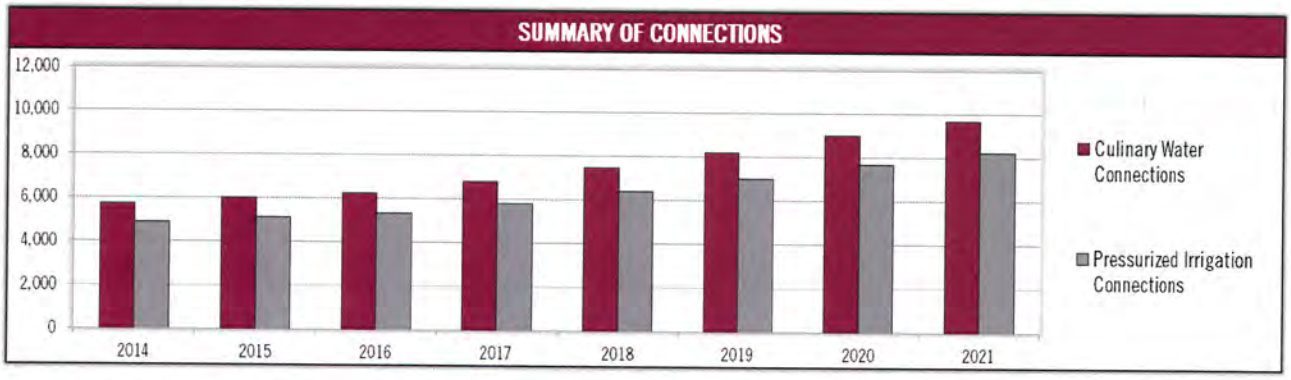
WHAT ARE THE UTILITIES?

The existing culinary and pressurized irrigation utilities provide high quality service to the residents, businesses, and other users in Saratoga Springs. Although generally unseen, these utilities provide essential services and must be maintained so that they continue to do so. Pipes, wells, water tanks, pumps, reservoirs, etc. are continually degrading with time and use that requires the City to reinvest in these facilities to make sure that they provide safe and reliable service indefinitely. Cities that do not maintain their systems run the risk of line breaks, backups, flooding, or service interruption that can result in illnesses, loss of property, or even loss of life.

Both systems are relatively new and currently require little repair and replacement expense, but the City is facing a great deal of new growth. Although impact fees will pay for the bulk of the new improvements there still may be timing gaps between the timing of impact fee payments and the actual construction timing of the project. Generally, impact fee revenues do not come to the City fast enough to pay the entire growth-related project costs. Until sufficient impact fees are collected, the utility enterprise fund will cover the costs and then will be repaid as impact fees are collected.

In 2014 the City has 5,738 culinary water connections and 4,899 pressurized irrigation connections. The table below graphs the growth in connections that the City anticipates. It is projected that by 2021 the City will have 9,676 culinary connections and 8,261 PI connections.

FIGURE ES.1: UTILITY CUSTOMERS CONNECTIONS



WHAT ARE OUR CURRENT USER RATES AND WHAT DO THEY FUND?

The City of Saratoga Springs currently collects monthly user rates for culinary water and pressurized irrigation. Revenues collected are used to pay the following key costs of maintaining good utility service for the City:

- Salaries and wages of City employees that operate and maintain the system;
- Costs of power to pump water out of the ground and deliver it throughout the City;
- Costs of keeping the existing infrastructure in good and safe condition;
- Cost of annual debt service payments for the outstanding Series 2005, 2006, 2009 and Series 2011 bonds and the future Series 2014 and 2016 bonds which have or will fund culinary and pressurized irrigation capital projects; and
- Maintenance of enterprise fund cash reserves equivalent to 150 days of operations expense combined coverage to maintain financial stability and protect against emergencies or cost overruns.

The current culinary water rate and pressurized irrigation rate structures are found in Figures ES.2 and ES.3 below.

FIGURE ES.2: CURRENT CULINARY RATE STRUCTURE

Culinary Water All Users						
Minimum	Maximum		Price per 1Kgal	Table No.	Base Fee	
-	999,999,999	$	1.55	101	All Meters*	$ 15.08

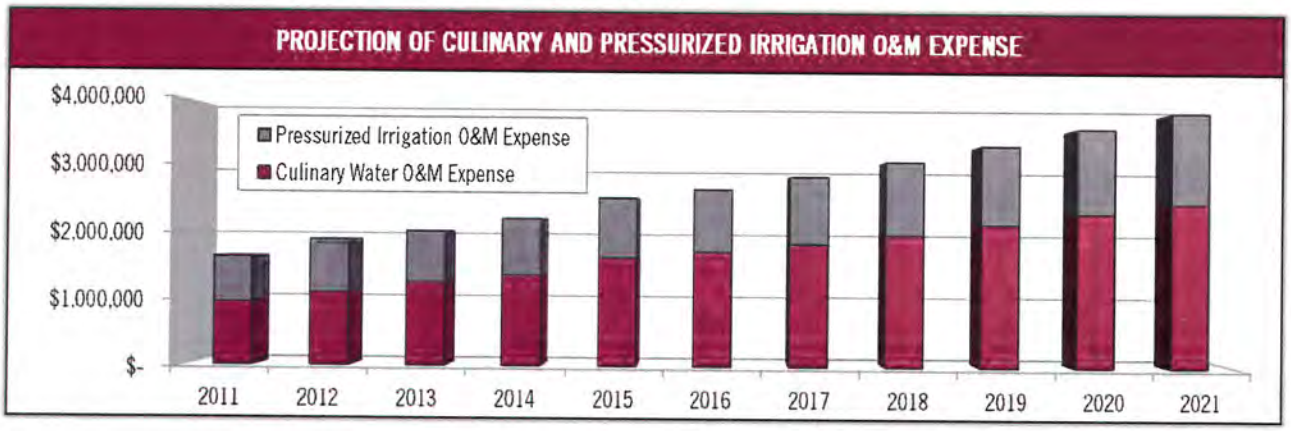
*Single family homes in the City are allowed a 5/8" or 3/4" meter

FIGURE ES.3: CURRENT PRESSURIZED IRRIGATION RATE STRUCTURE

Current Pressurized Irrigation			
Table No.	Base Fee		
701	Acre	$	67.48
701	Half Acre		33.74
701	Third Acre		22.27
701	Quarter Acre		16.87

Figure ES.4 below shows the projected annual costs for fiscal years 2009-2021 broken down by utility.

FIGURE ES.4: PROJECTED ANNUAL OPERATIONS & MAINTENANCE COSTS BY UTILITY



There are four primary goals that the City is concerned with when making long-term financial goals. These are **1)** cover the cost of operating the system, **2)** minimize the amount of borrowing needed while still providing exceptional service, **3)** sufficiently pay the costs of bond payments if bonds must be issued, and **4)** maintain, at an absolute minimum, at least 150 days of operating expense in cash reserves to mitigate any financial risks, emergencies, or unanticipated cash overruns. The City is meeting all goals very well.

The City's utilities have maintained a good financial position by making all bond payments resulting from money borrowed to build capital projects.

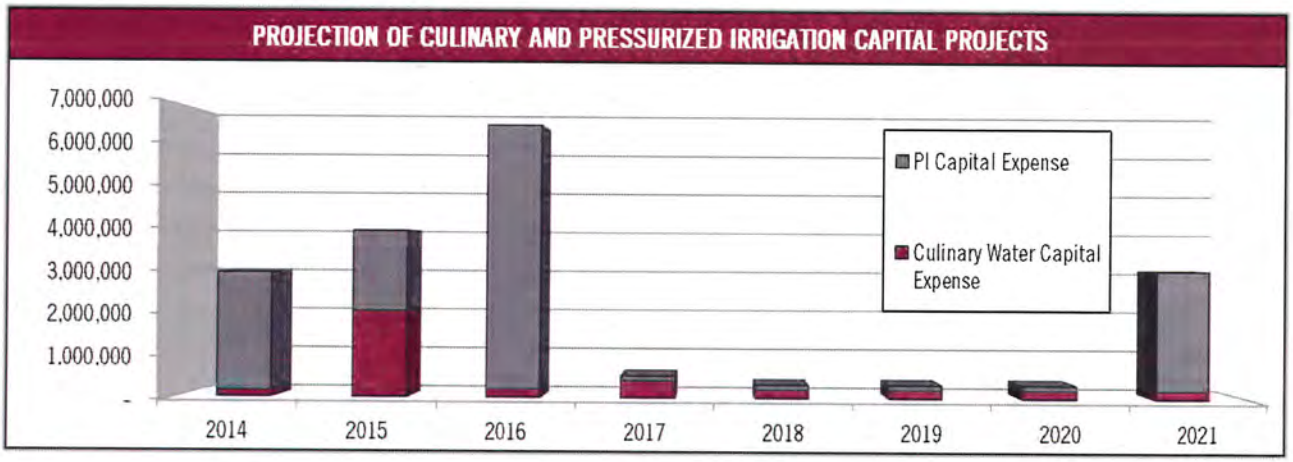
WHAT IS THE LONG-TERM PLAN FOR THE UTILITIES?

The City has prepared this rate analysis and financial plan to be sure that adequate financial resources are available to continue to operate the utilities as well as invest sufficient funds in repair and replacement to keep the systems operating properly. Growth will certainly continue within the City and although impact fees will help to fund the bulk of the growth-related costs, the timing of the impact fee collections will likely not match the timing of growth-related capital expenses. User rate revenues will offset any mismatches between slow impact fee collections and the immediate need for impact fee qualifying projects.

Why Does the City Need the Planned Capital Projects?

The City needs to undertake multiple capital projects for each utility to provide sufficient capacity for new growth and to a small extent repair and replace some existing facilities that need to be upgraded or replaced as they have reached their useful life. Pressurized irrigation meters will be installed by 2015 and will enable the City to develop more equitable PI rates. Impact fees will pay the majority of the costs for system expansions over time but rates will need to make up any immediate funding gaps.

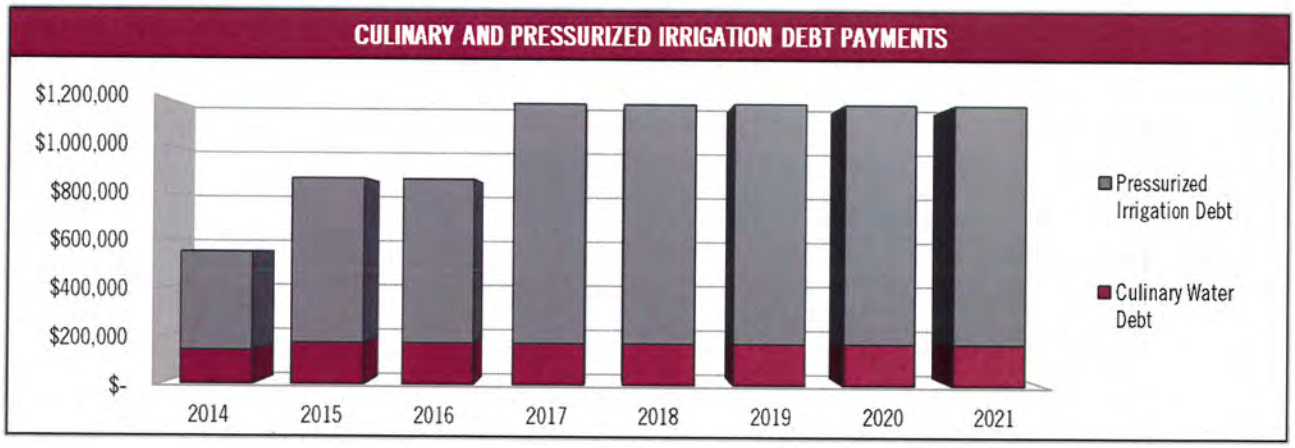
Figure ES.5: Annual Capital Projects by Utility



Will the City Need to Issue Bonds to Build Capital Projects?

The City has outstanding debt issues associated with the culinary water and pressurized irrigation utilities. Saratoga Springs issued 2005, 2006 and Series 2009 Bonds. These three bonds are expected to be refunded by the 2014 Bond in addition to approximately $6,350,000 in new money. A portion of the 2011 Sales Tax Bond has also been used for culinary and PI projects. The City also anticipates issuing approximately $4.6M in 2016 for PI projects. Figure ES.6 summarizes the City's debt payment schedules for the culinary and pressurized irrigation systems.

Figure ES.6: Summary of Future Debt Payments for Both Water Systems



Coverage ratios must be evaluated in conjunction with cash reserves. A utility may have a high coverage ratio if there is a lot of cash funded capital projects but have low cash balances or vice versa. A low number of cash funded capital projects needed results in high cash balances and lower coverage ratios.

FIGURE ES.7: FORECASTED DEBT SERVICE COVERAGE GRAPH FOR BOTH WATER SYSTEMS

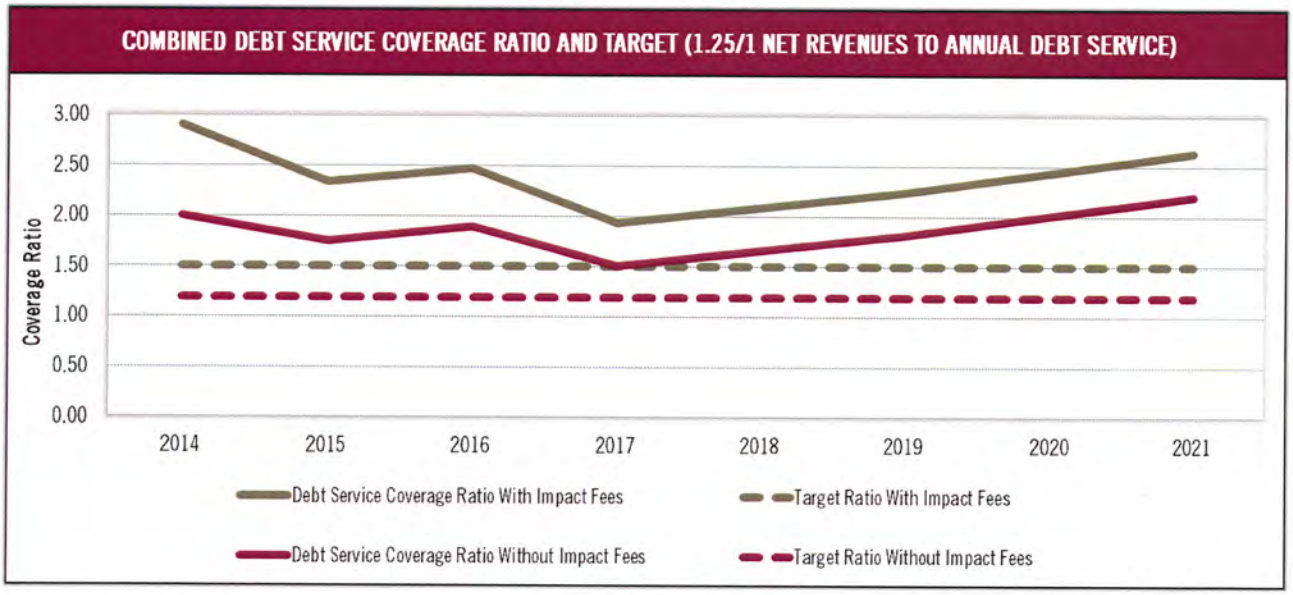
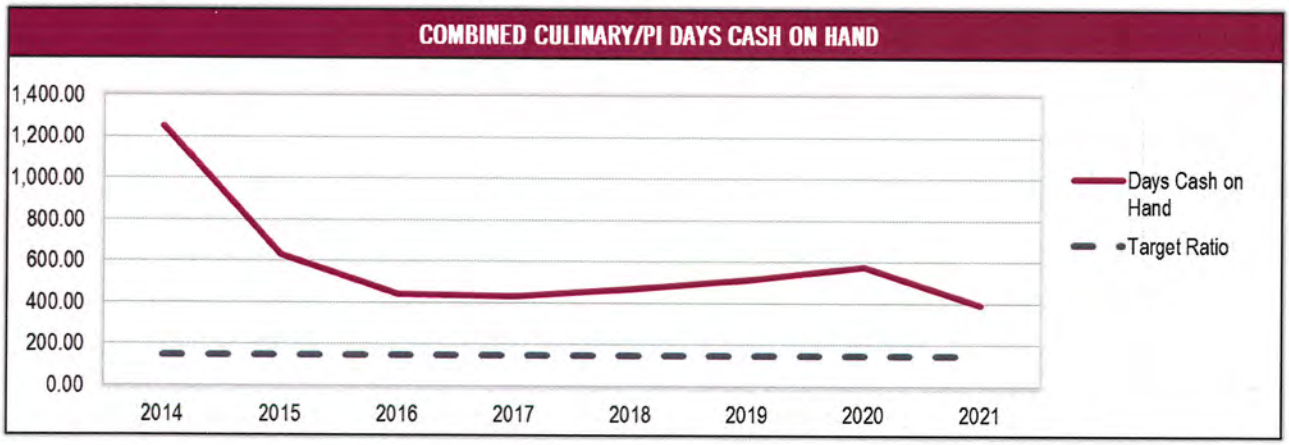


FIGURE ES.8: FORECASTED DAYS CASH ON HAND GRAPH FOR BOTH WATER SYSTEMS



HOW ARE UTILITY RATES CALCULATED?

Rates are determined by first calculating how much money the City must generate each year to adequately meet all financial goals. Second, the usage patterns of customer classes (i.e. single family, multi-family, commercial, etc.) are reviewed to know how much impact or demand each type of user places on the system. Finally a rate structure that will generate the necessary income is tailored for each user class that charges a fair price for the service provided given average demands.

What Changes Will be Made to Customer Classes, Tiers, or Other Rate Components?

The current structure of the culinary water rates will be changed significantly with the addition of a graduated meter fee and tier structure for residential users. The rate structures for pressurized irrigation will generally follow the current rate structure.

The culinary water structure, particularly the residential element, received the greatest attention as each user under the existing rate structure was charged the same flat fee regardless of connection size and whether they were a residential user or a commercial/industrial user. With this structure it was very difficult to incentivize water conservation amongst residential customers.

What are the Recommended Rates?

The complete rate schedule for each utility is found in the attachments of this analysis. Figures ES.9 and ES.10 show the proposed rates.

Figure ES.9: Proposed Residential Culinary Water Rates

Culinary Water Residential With 3,000 Gal Allotment						
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee		
-	3,000	$ -	101	0.75"	$	17.75
3,001	7,000	2.40	102	1"		17.75
7,001	12,000	3.25				
12,001	999,999,999	4.00				
Culinary Water Multi-Family/Condominiums - Per Unit With 3,000 Gal Allotment						
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee		
-	3,000	$ -	103	3/4"	$	17.75
3,001	7,000	2.40	104	1"		17.75
7,001	12,000	3.25				
12,001	999,999,999	4.00				
Culinary Water Commercial/Industrial per Connection With 3,000 Gal Allotment						
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee		
-	Unlimited	1.65	112	3/4"	$	17.75
			113	1"		23.08
			114	1.5"		28.40
			115	2"		46.15
			116	3"		177.50
			117	4"		225.43
			118	6"		339.03
			119	8"		468.60

FIGURE ES.10: PROPOSED PRESSURIZED IRRIGATION WATER RATES BY LOT SIZE

Proposed Pressurized Irrigation - Reliance on Combined Water Coverage for 1.25 X Coverage		
Table No.	Base Fee	
701	Acre	$ 104.72
701	Half Acre	52.36
701	Third Acre	34.56
701	Quarter Acre	26.18

WHEN WILL USER RATES BE CHANGED AGAIN?

The user rates proposed in this analysis are intended to be useful for the next five years assuming that there are no shifts in capital project timings or costs, or major changes in how the City operates each utility that would affect operations and maintenance cost projections. After 2016, rates are expected to be increased annually as shown in Figure ES.11. The rates reflect a larger bump today to set the revenues in a trend that will likely prevent the need for major increases later as long as the City implements the small annual adjustments recommended in Figure ES.11. If there is any major change in project planning or user rate assessment, then the rate analysis will need to be redone sooner.

FIGURE ES.11: ANNUAL RATE INCREASE

Culinary Water	2014	2015	2016	2017	2018	2019	2020	2021
Annual Increase to Average Monthly Culinary Rates	$ 0.57	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Annual Average Monthly Culinary Rates	$ 24.95	$ 24.95	$ 24.95	$ 24.95	$ 24.95	$ 24.95	$ 24.95	$ 24.95
Pressurized Irrigation	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Increase to PI Revenues	60%	0%	10%	10%	10%	10%	10%	10%
Growth Rates	5%	5%	4%	9%	10%	10%	10%	8%
Net Change to Rates	55%	0%	6%	1%	0%	0%	0%	2%
Annual Increase to Average Monthly PI Rates	$ 9.31	$ -	$ 1.48	$ 0.36	$ 0.02	$ 0.07	$ 0.12	$ 0.70
Annual Average Monthly PI Rates	$ 26.18	$ 26.18	$ 27.66	$ 28.01	$ 28.03	$ 28.10	$ 28.22	$ 28.92
Estimated Increase in Average Water Bill	**$ 9.88**	**$ -**	**$ 1.48**	**$ 0.36**	**$ 0.02**	**$ 0.07**	**$ 0.12**	**$ 0.70**
Estimated Average Monthly Water Bill	**$ 51.13**	**$ 51.13**	**$ 52.61**	**$ 52.96**	**$ 52.98**	**$ 53.05**	**$ 53.17**	**$ 53.86**
Net Change to Rates		**0%**	**3%**	**1%**	**0%**	**0%**	**0%**	**1%**

Figures shaded beyond 2016 are for rough approximation only. Once PI meters are installed, rates will be based on actual consumption rather than lot size.

What is the Impact Upon Residents of Saratoga Springs?

Figures ES.12 and ES.13 are graphs that compare the current residential bills with the proposed bill for each utility given different usage patterns.

Figure ES.12: Comparison of Current and Proposed Culinary Water Average Cost Per 1,000 Gallons

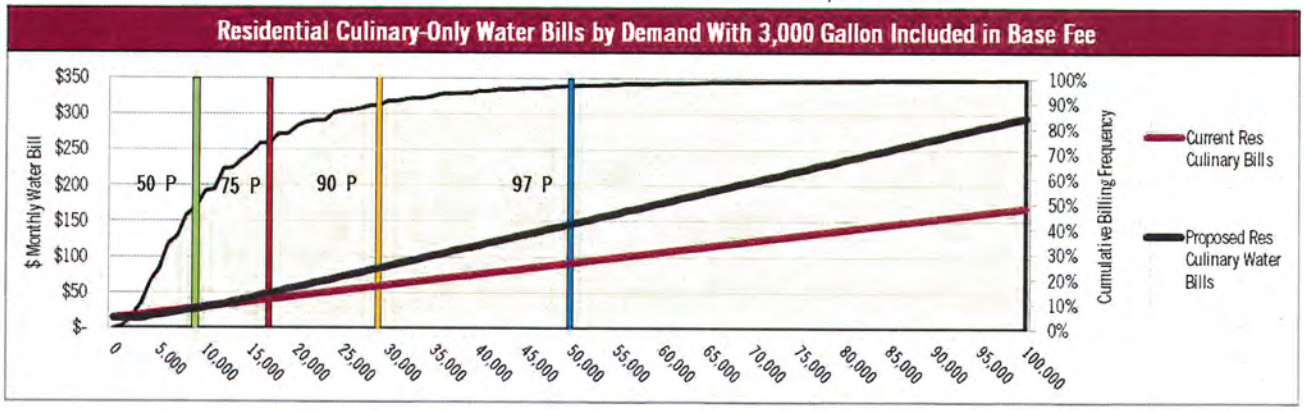
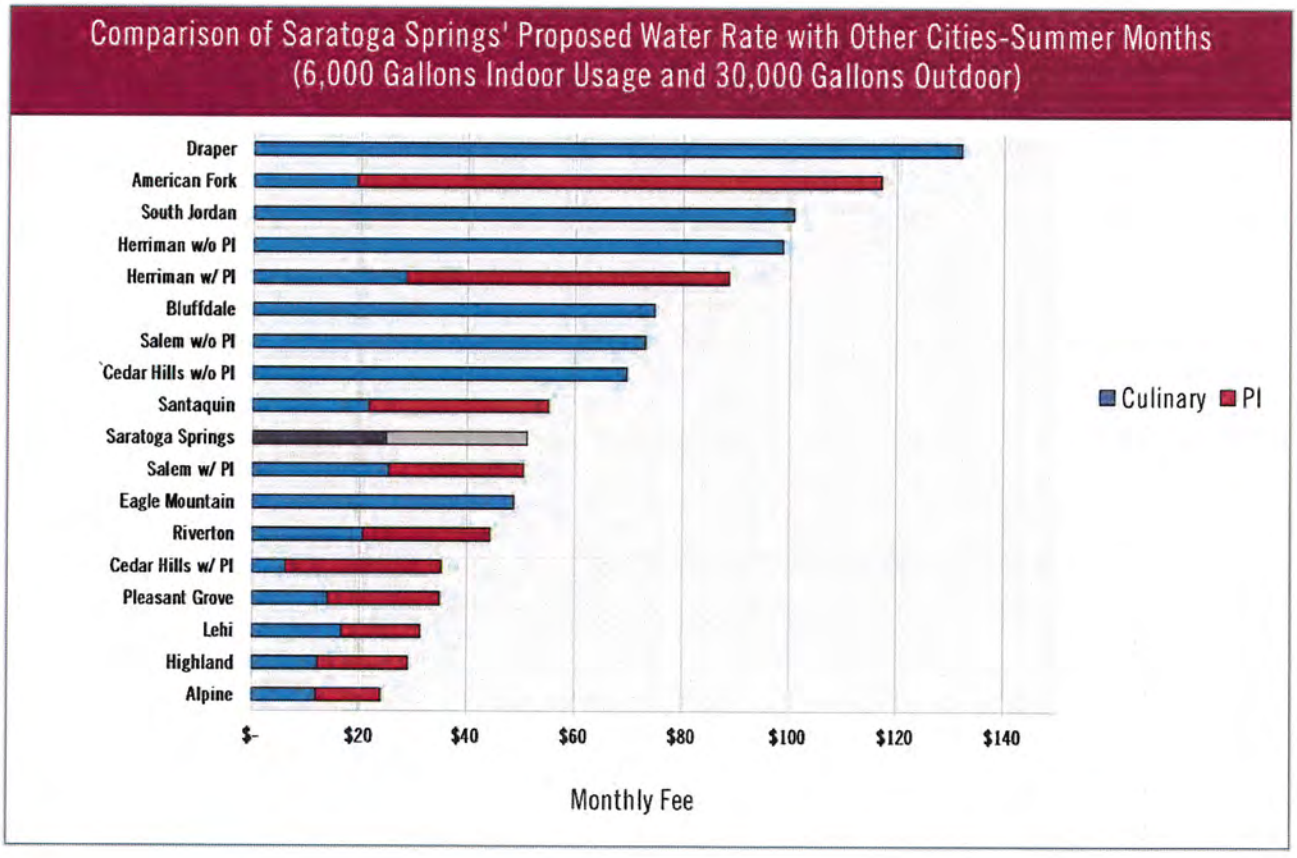


Figure ES.13: Comparison of Residential Bills with Utility Bills of Other Cities



CHAPTER 1: UTILITY RATE ANALYSIS OVERVIEW

The City of Saratoga Springs (the "City") hired Zions Bank Public Finance ("Zions") to conduct a utility user rate study, including an evaluation of the current user rate structures, an updated revenue requirement analysis, and corresponding user rates for the culinary water and pressurized irrigation utilities. The purpose of this analysis was to provide a fair and equitable rate structure for each utility that provides for healthy, financially sustainable utilities. The data for this analysis was provided by the City of Saratoga Springs and the study was conducted in cooperation with City staff.

OVERVIEW OF THE USER RATE ANALYSIS

BACKGROUND OF CITY UTILITIES

The City was incorporated in December of 1997. The City contains over 21 square miles and runs from Pelican Point on the west side of Utah Lake over eleven miles north to the Camp Williams US Army facility in the foothills between Utah and Salt Lake Counties. Saratoga Springs provides culinary water and pressurized irrigation services within the City boundaries. The City has an estimated 25,364 residents and 5,087 culinary water connections and 4,828 PI connections.

RATE-SETTING PROCESS

The rate setting process consisted of the following three phases:

1. **Revenue Requirement Analysis:** In this phase, Zions worked with the City's public works staff to project expenses for each utility over eight years from FY 2014 to FY 2021, including operating and maintenance expenses, capital expenditures, specified reserves, and future debt service;
2. **User Demand and Cost of Service Analysis:** Following the calculation of the revenue requirements, Zions analyzed the City's historic billing and usage data to determine the demand for each utility; and
3. **Rate Design Analysis:** In the final phase of the study, Zions structured a schedule of rates based on the revenue requirements and historical user data for all utilities.

GENERAL USER RATE ANALYSIS OBJECTIVES

REVENUE SUFFICIENCY AND FINANCIAL STRENGTH

An objective of the rate analysis is to determine rates for each of the water utilities that provide revenue sufficiency, meet bond debt service requirements, fund capital projects, and build reserves. The rates also need to remain within affordability guidelines as defined by the EPA and maintain fairness between users with differing levels of impact on the system.

FAIR AND EQUITABLE USER RATES

Each city is unique and each of its utilities has its own characteristics that need to be considered in a rate analysis. Considerable research and analysis must be undertaken to understand and analyze the costs of the City's utilities and demands. The City is working to draw new business in and promote economic development. The rate design process should not hamper these goals, but provide a tool to meet the City's key objectives. The objective is to develop a fair rate structure that will keep the City's utilities financially self-sufficient indefinitely.

CONSIDER FUTURE INFLATIONARY COSTS OF OPERATIONS

The costs of operating the utility systems increases each year with cost inflation just as the expenses of food, cars, power, clothing and other day to day goods increase over time. If the City were not able to increase utility rates accordingly then the amount of buying power would decrease each year due to inflation and eventually the City would be unable to effectively operate the system. To maintain the same great service that the City currently provides, the rates must be increased for inflation and to adequately fund capital projects.

CITY COUNCIL'S OBJECTIVES

ZBPF worked with the City Council to discuss options regarding policy that would be used to guide the development of an improved utility user rate structure. The following are the general results of the efforts to define a rate structure:

- User rates should be divided into more user rate classes according to the different user and demand characteristics to achieve a more equitable cost allocation;
    - New culinary water rate categories could include Single Family Residential, Multi-family Residential, and Commercial/Industrial;
- User rates should reflect the demand patterns for each user class rather than using a flat and averaged cost for all user classes;
- A tiered culinary water rate structure is appropriate for residential users;
    - 3,000 gallons are included in the base monthly fee;
    - Tiered pricing starts at 3,001 gallons to 7,000 gallons, 7,001 to 12,000 gallons, and above 12.001 gallons;
    - Multi-family rates follow the same single-family tiered rate structure multiplied by the number of units served. For example, a four unit building with one connection will be provided 12,000 gallons (3,000 gallons x 4 connections) included in the base monthly fee and will pay a base fee of $71.00 ($17.75 x 4 connections).
- Commercial/Industrial users will be based upon a flat price per 1Kgal per class that will be applied to all water usage;

FINANCIAL OBJECTIVES

Zions and city staff have developed the following financial objectives to be met by this user rate analysis:

- User rate revenues should cover all operating, financing, and capital costs;
- Meet minimum coverage ratio requirements for all debt to be issued;
- Each utility should establish adequate cash fund balances;
- Cash fund improvements wherever possible to reduce borrowing costs; and
- Consider reasonable future capital projects/replacements.

USER RATE REVENUES

Revenue for each utility is derived from user charges, meter fees, impact fees, interest income, and other non-rate revenues. The bulk of revenue generated will come from user rate charges, thus the level of future revenue the City can expect is directly related to the number of connections the City serves.

DEBT SERVICE COVERAGE RATIO

One of the key ratios credit analysts use in assessing the financial strength of a utility system is the Debt Service Coverage Ratio—the ratio of revenues (less O&M excluding depreciation expense) to annual debt service. The minimum coverage ratio is 1.25X, which means the system generates enough revenue, after O&M expenses excluding depreciation, to pay 125% of the debt service. When the City issues debt this coverage calculation must be constantly monitored to ensure full compliance with bond covenants.

As future debt is contemplated in this user rate analysis and outstanding debt exists, a debt service coverage ratio must be met. Debt service requirements consist of principal and interest payments on existing debt. Outstanding and future bonds require at least 1.25X annual revenue coverage for each dollar of debt.

CASH RESERVES (DAYS OPERATION & MAINTENANCE IN RESERVE)

Another key ratio used by credit analysts in assessing the strength of a utility system is Days Operation & Maintenance in Reserve (DO&MR). DO&MR measures the utility's financial flexibility and liquidity and is calculated as follows:

Cash Balance/(Annual O&M Expenses/150) = Days Operation & Maintenance in Reserve

Highly rated municipalities have adequate cash on hand to cover unforeseen contingencies.

These numbers can be used as a benchmark for the City as it prepares to issue utility revenue bonds.

The City requires adequate cash reserves to meet operating, capital, and debt service requirements. Debt service reserves provide protection from defaulting on annual debt service payments in times of financial difficulty. One year of debt service payments is required in reserve, so each time the City issues new bonds, additional proceeds are added to the restricted reserve. Operating reserves may be used to meet ongoing cash flow requirements as well as emergency requirements.

CASH FUNDING REPAIR AND GROWTH-RELATED CAPITAL PROJECTS

Cash funding capital projects is ideal because this approach reduces the amount of interest expense that the City's ratepayers must pay in user rates and it suggests a greater degree of self-reliance. However, at times it is not practical to cash fund capital projects and debt must be issued. Debt is helpful when the amount of capital projects to fund is so large that setting the user rates to cash-fund the improvements will result in very large rate increases. Sometimes a project must be built much quicker than the ability to accumulate cash.

Some utilities will only focus on growth-related infrastructure that can be included in the impact fees and neglect to consider the costs of failing infrastructure that need significant investment to continue to serve users. It is important that utilities continually focus on the amount of reinvestment needed each year to keep their assets in service as long as possible. This analysis considers a large amount of capital reinvestment.

REVENUE REQUIREMENT ANALYSIS

The first important step in the rate setting process is to determine a utility's revenue requirement. A revenue requirement is the level of user rate revenues required for a utility to adequately operate and maintain its system, meet its financial obligations, and maintain appropriate reserves. Utility user rates must generate sufficient revenue to cover expenses and maintain the financial integrity of each utility. The revenue requirement analysis includes operating and maintenance (O&M) expenses, capital expenditures, debt service payments, specified reserves, and related bond covenants.

The revenue requirement analysis includes the following five expense categories to create an annual amount that each of the water utilities must generate to keep each system financially sound:

1. Rate and Non-Rate Revenue Projections;
2. Operations and Maintenance Expense Forecast;
3. Funding Future Capital Projects;
4. Outstanding and Future Debt Service Payments; and
5. Maintenance of Adequate Cash Balances

User Rate and Non-Rate Revenue Projections

The City collects a range of revenue sources that help pay the costs of the utilities in addition to the revenues collected from the user rates. These revenues include operating and non-operating revenues that help reduce the amount that must be collected from rates.

UTILITY RATE REVENUES

Rate revenues are a combination of a monthly base fee paid per connection plus, in the case of culinary water, a consumption fee for the amount of water used. Rate revenues from the monthly base fees are very stable and predictable while the revenues from the consumption fees become more unstable as consumption increases beyond what is needed for indoor consumption.

NON-RATE UTILITY REVENUES

Non-rate revenues include sources such as interest income paid on cash balances, impact fees collected according to the rate of growth, connection fees, disconnection fees, penalties for late payment, and other administrative charges. Non-rate revenues are small in comparison with rate revenues. Some charges, such as impact fees and connection fees, fluctuate with growth while others tend to remain stable or slightly increase as the total number of City connections increases.

Operations and Maintenance Expense Forecast

O&M expenses are the costs necessary to operate and maintain wells, lines, pumping, transmission and distribution facilities, as well as the costs of customer service, administrative, and general expenses. The O&M expenses are projected based on historical expenditures with adjustments to reflect any known and anticipated changes in expenditures, including inflationary costs. The operational expenses to be covered by each utility were identified and divided by utility.

Water and Systems' Capital Needs

CAPITAL PROJECTS IDENTIFIED THROUGH 2021

Capital expenditures are those expenditures that result in the repair, acquisition, or addition of fixed assets. The City's Culinary Water and Pressurized Irrigation Capital Facilities Plan, prepared by Hansen Allen & Luce and reviewed by City staff, outlines the growth-related and maintenance capital projects required through 2021. These capital projects may be paid for through a combination of current year revenues, debt financing, and cash reserves.

FUNDING GROWTH-RELATED AND MAINTENANCE CAPITAL PROJECTS

The Capital Facilities Plan has laid out the projects that will be needed to expand the current capacities of the City's utilities for future citizens, and repair and, when necessary, replace existing facilities that serve current customers. It is important to categorize projects in this manner because impact fee revenues (charged to new development) are reserved

for expansion related costs and therefore cannot be used for repair and replacement projects. It is important that the City plan for anticipated repair and replacement projects, as well as build a reserve fund for unanticipated projects.

Capital facilities are to be funded through a combination of several different funding mechanisms listed below:

- Bond proceeds
- Pay-as-you-go revenues– rates and rate funded reserves
- Grant receipts
- Contributions
- Interest earnings
- Impact Fees

FUNDING GROWTH-RELATED PROJECTS WITH IMPACT FEES

The City's capital improvement plan for each utility has distinguished between repair and replacement and expansion costs to properly apply revenue sources. New customers will benefit from capacity created by expansion projects. These projects will be funded (in part) by impact fees and bond proceeds. However, impact fees are not always a stable source of revenue as growth patterns change and sufficient funds may not have been collected to fund an entire project. This rate analysis also includes a financing plan to fund high dollar projects from the capital facilities plan.

Outstanding and Future Debt Service Payments

Debt service includes principal and interest payments on existing and future bonds. The City's capital facilities plan outlines multiple capital projects that are anticipated to be paid for with bonds at some point in the future. The exact timing of the projects is unknown and the costs of the projects will vary from year to year due to inflation, which can be a challenge for creating stable rates. City staff/Consulting Engineers provided reasonable estimations of capital project timings for each utility. Financing the projects through bonds will help provide uniform expenses from year to year, which allows for more rate stability.

Cost of Service Analysis

In a cost of service analysis (COSA), the true cost of water is determined using a methodology that generates a system of fair and equitable costs in proportion to the service received by each customer class. The cost of service allocations conducted in this study are based on the base-extra capacity method endorsed by the American Water Works Association (AWWA) a nationally recognized water body directing the management of utilities in the US.

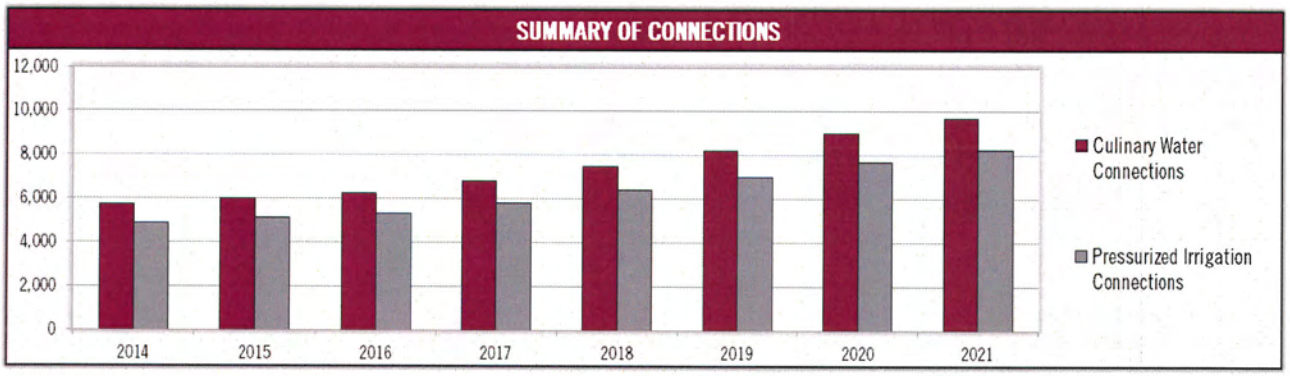
Under the base-extra capacity method, revenue requirements are allocated to the different user classes proportionate to their use of the water system. Allocations are based on average day (base), maximum day peak (Max Day) usage, maximum hour peak (Max Hour) usage, meters and services, billing and collection and fire protection. Use of this methodology results in an AWWA accepted cost distribution amongst customer classes and a means of calculating and designing rates to proportionately recover those costs. There is some flexibility in the design of the rate structure to meet the City's pricing objectives while being consistent with cost of service principles.

ZBPF will demonstrate in the following chapters the true cost of water and evaluate scenarios for cost savings and optimizing the City's water resources and contracts.

General City-Wide Connection Growth Projections

Figure 1.1 shows the growth rate projection for the City of Saratoga Spring. In 2014 the City has 5,738 culinary connections and 4,899 PI connections. By 2021 it is anticipated that culinary connections will reach 9,676 and pressurized irrigation will reach 8,261.

FIGURE 1.1: PROJECTED GROWTH IN CONNECTIONS



CHAPTER 2: CULINARY WATER RATES

CULINARY WATER SYSTEM OVERVIEW

The City's culinary water system provides safe and clean drinking water to all the residents in Saratoga Springs. The culinary water system provides the water used indoors for domestic purposes such cooking, cleaning, bathing, etc. The pressurized irrigation system is used for outdoor watering purposes.

The City has several projects that must be undertaken to ensure that the City's culinary water service remains safe and reliable. A lack of maintenance often leads to greater frequencies of pipe breaks and failures that usually end up costing the City and ratepayers more than if the money was put into rehabilitating the system in the first place. Timings and sizes of capital project investments are found in Figure 2.5 later in the document.

CURRENT CULINARY WATER USER RATE STRUCTURE

The City's current culinary water user rates for all users, both residential and non-residential, are based upon the following key rate structuring criteria:

- A single user class;
- Monthly base fee of 15.08; and
- Consumption charges assessed per 1,000 gallons at $1.55.

CULINARY WATER RATE DESIGN OPTIONS AND RECOMMENDATIONS

Culinary water rates are structured to promote water conservation. Water in Utah is a scarce resource and must be used wisely. The infrastructure needed to convey water is also expensive and high volumes of wasteful water use requires the City to build higher-capacity and higher cost storage tanks and water lines. Conservation ensures that there is enough water for everyone to use and reduces the costs of building culinary water infrastructure.

Conservation is promoted by water rates through an increasing cost of water as more water is used. The cost increases particularly fast once a user reaches a level of usage that is very high (97th Percentile) in comparison with what other similar users are demanding.

RECOMMENDED CULINARY WATER USER GROUPS

The following groups are recommended for the new culinary water rate structure:

- Single Family Residential;
- Multi-Family/Condominiums; and
- Commerical/Industrial.

FIGURE 2.1: RECOMMENDED CULINARY WATER RATE STRUCTURE

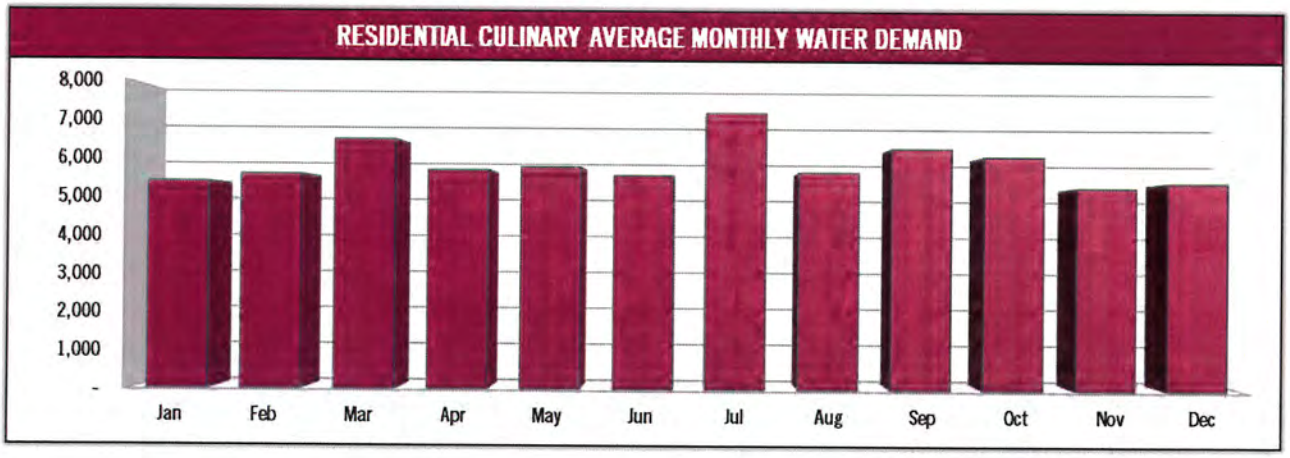
Culinary Water Residential With 3,000 Gal Allotment						
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee		
-	3,000	$ -	101	0.75"	$	17.75
3,001	7,000	2.40	102	1"		17.75
7,001	12,000	3.25				
12,001	999,999,999	4.00				
Culinary Water Multi-Family/Condominiums - Per Unit With 3,000 Gal Allotment						
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee		
-	3,000	$ -	103	3/4"	$	17.75
3,001	7,000	2.40	104	1"		17.75
7,001	12,000	3.25				
12,001	999,999,999	4.00				
Culinary Water Commercial/Industrial per Connection With 3,000 Gal Allotment						
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee		
-	Unlimited	1.65	112	3/4"	$	17.75
			113	1"		23.08
			114	1.5"		28.40
			115	2"		46.15
			116	3"		177.50
			117	4"		225.43
			118	6"		339.03
			119	8"		468.60

Culinary Water Demand Analysis

PROJECTED RATE OF CONNECTION

It is anticipated that an average of 500 new culinary water connections will be added per year which equates to an average growth rate of 7.77% from 2014 to 2021.

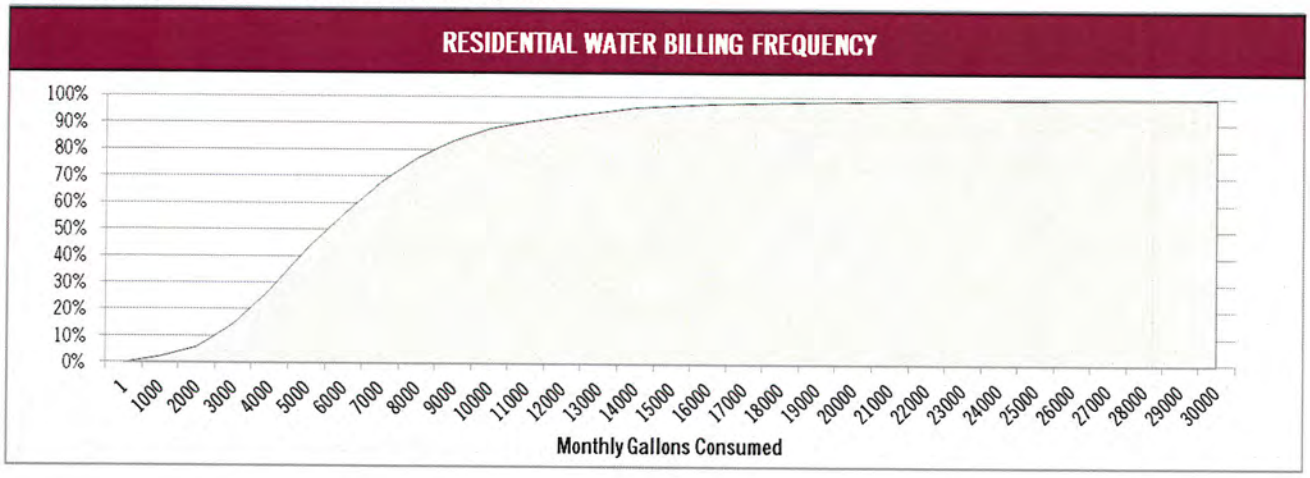
Figure 2.2: Average Monthly Culinary Water Demands By Connection



Customer Demand Patterns

Culinary water usage is more level throughout the year than a typical city without pressurized irrigation. The single family residences, in comparison with commercial/industrial culinary water users, have a very predictable pattern of usage as the water is for meeting in-door demands. Figure 2.3 below shows the typical residential single-family consumption by percentile. The median or 50% percentile of all bills is at 6,000 gallons.

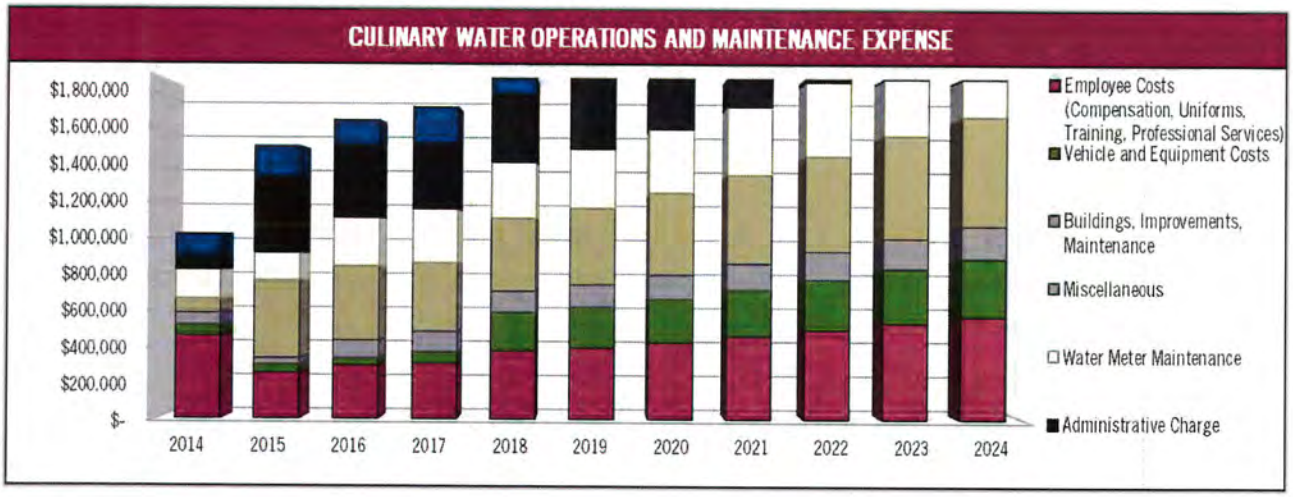
Figure 2.3: Residential Culinary Water Billing Frequency



Culinary Water Revenue Requirements

CULINARY WATER OPERATIONS AND MAINTENANCE EXPENSE

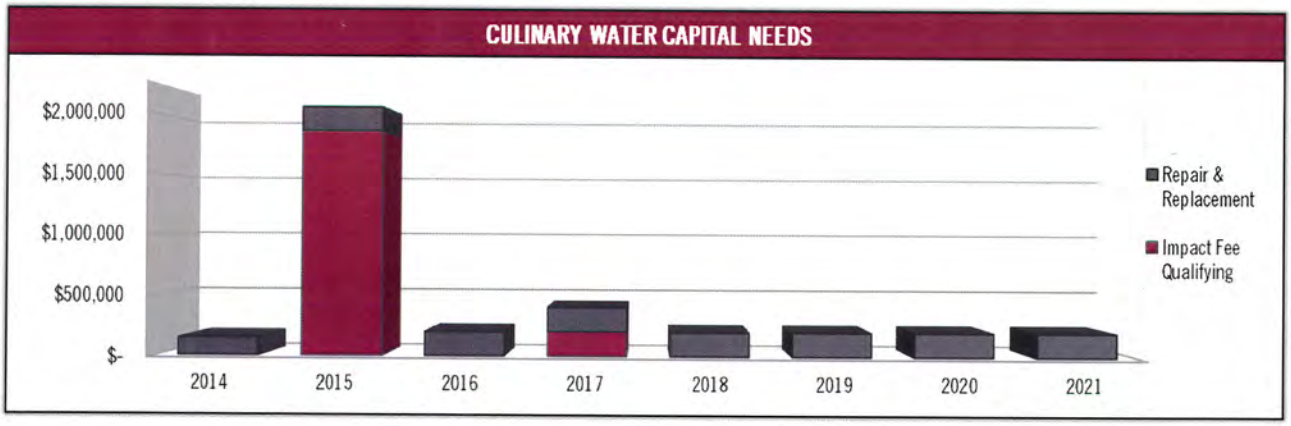
Figure 2.4: Culinary Water Operations and Maintenance Expense



CULINARY WATER CAPITAL PROJECTS

The City is planning to invest funding toward culinary water capital projects and has identified these projects in the attached Appendix E. The initiative includes $3 million (FV) of projects required to expand and improve the City's system.

Figure 2.5: Culinary Water Capital Project Expense



OUTSTANDING AND FUTURE DEBT SERVICE PAYMENTS

The City issued a 2011 Bond to build the Public Works Building but excess funds have been used to construct water improvements. Approximately 33% of the Series 2011 Bond relates to culinary water improvements and 16% to the pressurized irrigation system. Figure 2.6 below details the summary of outstanding and future debt. Two future bonds are anticipated. The 2014 Bond will refund the City's 2005, 2006 and 2009 bonds and will benefit both the pressurized irrigation system and a small portion to culinary water. The Series 2016 bonds will exclusively be used for the pressurized irrigation system.

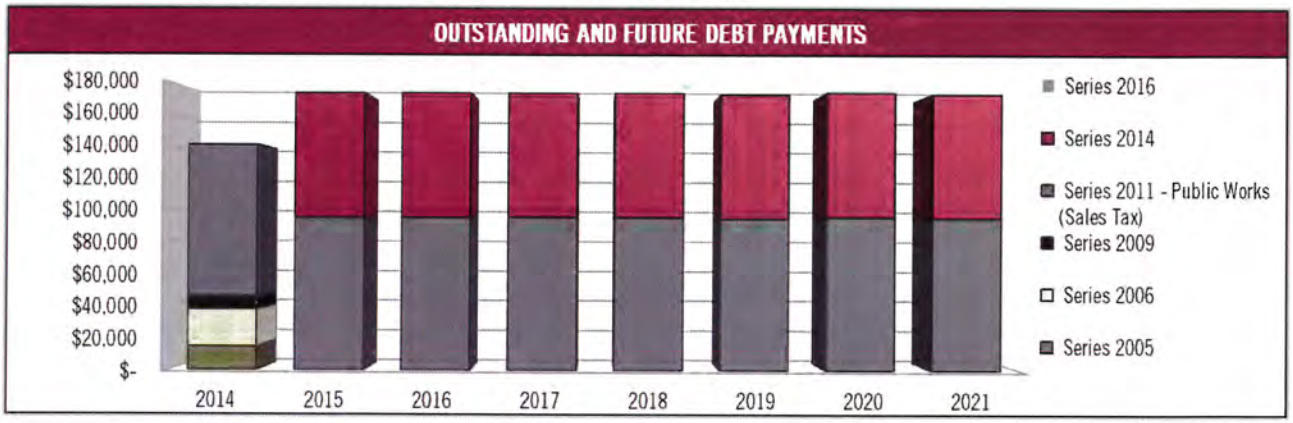
FUTURE PROPOSED BONDS

FIGURE 2.6: SUMMARY OF OUTSTANDING AND FUTURE CULINARY AND PRESSURIZED IRRIGATION DEBT

Bond Issue	Total Par Amount	Interest	Total Debt Service	% to Water	% to PI
Series 2011 Public Works	$ 4,000,000	$ 1,820,163	$ 5,820,163	33%	16%
Series 2014 Water Revenue Bond	10,000,000	4,406,184	14,406,184	11%	89%
Series 2016 Water Revenue Bond	4,395,000	1,937,309	6,332,309	0%	100%
Totals	**$ 18,395,000**	**$ 8,163,655**	**$ 26,558,655**		

Figure 2.7 shows the schedule of outstanding and future debt payments. As mentioned previously, the Series 2005, 2006 and 2009 Bonds are expected to be refunded with the Series 2014 Bond.

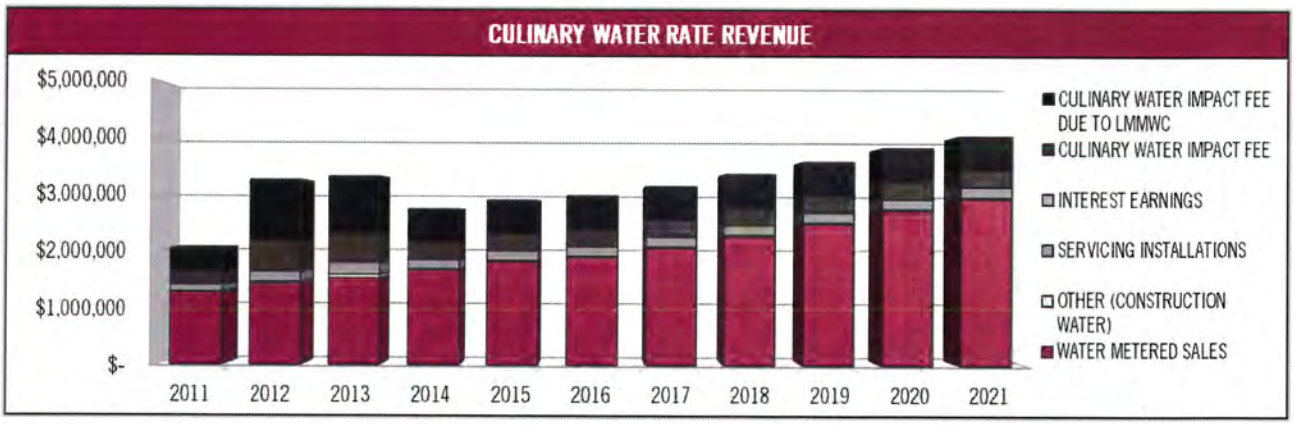
FIGURE 2.7: SCHEDULE OF OUTSTANDING AND FUTURE CULINARY WATER DEBT PAYMENTS



ANNUAL REVENUE REQUIREMENT TO BE COLLECTED

As shown below, the City needs to generate approximately $2.8M in total revenue in FY 2014. By FY 2021 this total revenue requirement will have increased to just over $4M.

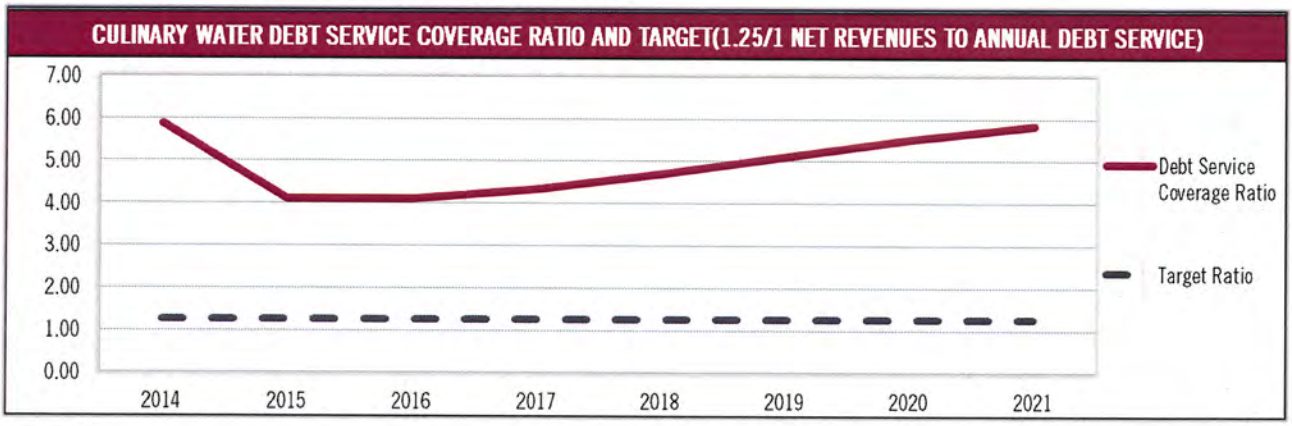
FIGURE 2.8: RECOMMENDED CULINARY WATER ANNUAL REVENUE REQUIREMENT (2011 TO 2021)



CASH RESERVE LEVELS (DAYS OPERATION & MAINTENANCE IN RESERVE)

As explained in Chapter 1, DO&MR is a key ratio to analyze when calculating user rates. The City's target ratio is 150 days of funds in reserve. The graph below shows the DO&MR for the culinary water utility fund.

FIGURE 2.9: CULINARY WATER DEBT SERVICE COVERAGE RATIO AND TARGET



The City requires adequate cash reserves to meet operating, capital, and debt service requirements. Debt service reserves provide protection from defaulting on annual debt service payments in times of financial difficulty. One year of debt service payments is required in reserve, so each time the City issues new bonds, additional proceeds are added to the restricted reserve. Operating reserves may be used to meet ongoing cash flow requirements as well as emergency requirements.

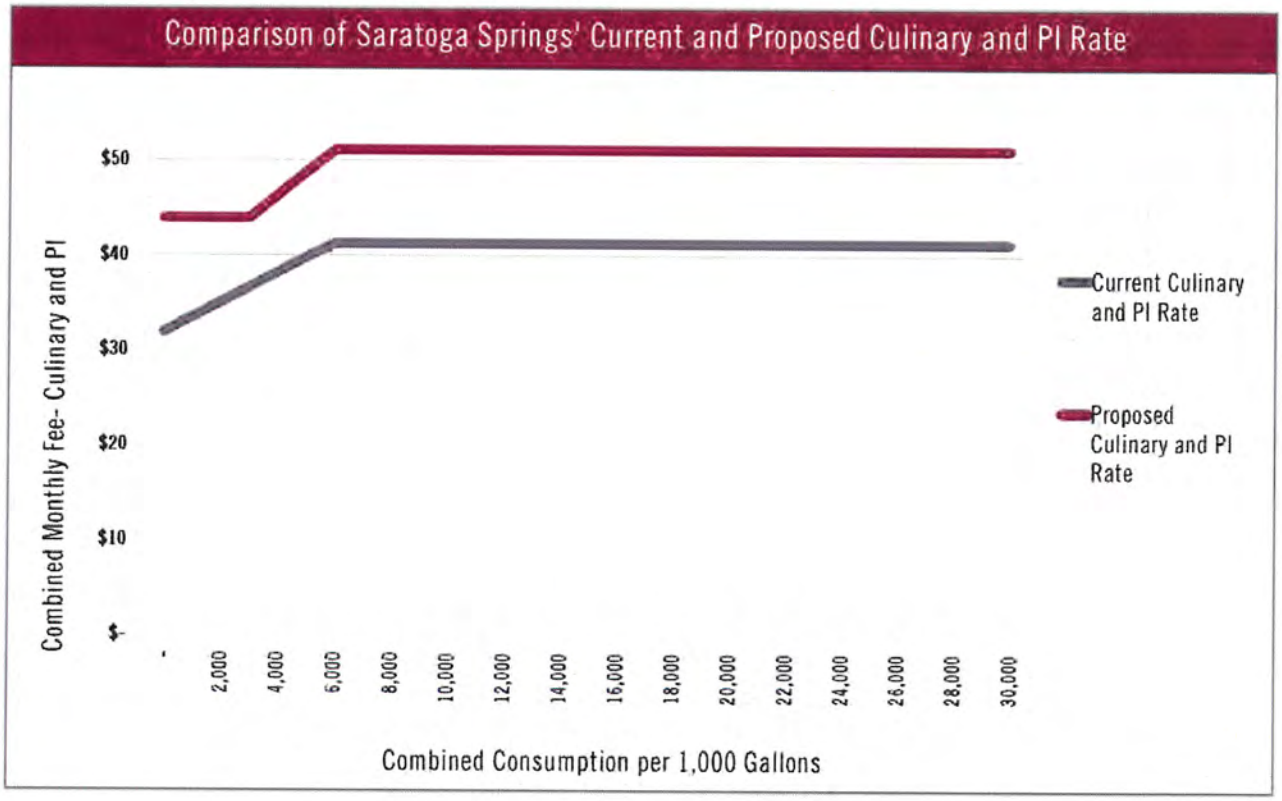
FIGURE 2.10: CULINARY WATER RATE SUMMARY

CULINARY WATER RATE SUMMARY					
Year	2014	2015	2016	2017	2018
Increase to Culinary Water Revenues	9.0%	0.0%	0.0%	0.0%	0.0%
Culinary Water Connections	5,738	5,738	5,738	5,738	5,738
Growth Rates	4.82%	4.56%	4.35%	8.71%	9.94%
Net Change to Rates	0.00%	0.00%	0.00%	0.00%	0.00%
Coverage Ratio	4.11	4.10	4.34	4.71	5.11
Days Operations Expense Cash on Hand (Target: 150)	1,032	710	741	772	841

Impact on Residential and User Rates

Figure 2.11 shows the change in residential culinary bills. Commercial/industrial information can be found in the appendix.

Figure 2.11: Change in Residential Culinary and PI Monthly Bills



CHAPTER 3: PRESSURIZED IRRIGATION RATES

PRESSURIZED IRRIGATION SYSTEM OVERVIEW

Pressurized irrigation rates are structured to promote conservation of more expensive culinary water sources by developing lesser grade water sources for outdoor watering. The water delivered to these connections is not metered and is only delivered for a portion of the year. The pressurized irrigation system is generally in operation for six months of the year from April to October.

Saratoga Spring's existing PI system is comprised of a pipe network, water storage ponds, and water supply sources. Though the system is Master Planned and the desire of the City is to have a completed system there are still a number of major facilities yet to be constructed. The majority of the systems in the north are piping only, relying on cross connections to the culinary water system to provide source and storage. The south system utilizes low quality groundwater, and canal water as sources with large storage ponds. Many of the connections are metered but the City is still in the process of metering all of the connections within the system and thus charges a flat monthly fee based on lot size rather than charging a metered fee.

CURRENT PRESSURIZED IRRIGATION USER RATE STRUCTURE

The City's current pressurized irrigation user rates are structured as a flat monthly fee graduated according to lot size. The current fee is $16.87 per ¼ acre.

PRESSURIZED IRRIGATION RATE DESIGN OPTIONS AND RECOMMENDATIONS

Historically, pressurized irrigation rarely has been metered as the water tends to be dirtier than potable culinary water and the sediment and debris clogs standard mechanical type meters. Recently meter suppliers have designed meters that can work well for pressurized irrigation water. As pressurized irrigation metering technology is improving some cities and districts in Utah are starting to meter PI water and develop a consumption-based tier structure to promote PI water conservation. There is a significant cost to add PI meters to the City's existing connections and the City is in the process of converting over. Until this is completed, the pressurized irrigation utility rate will remain assessed on a lot size basis.

RECOMMENDED PROPOSED PI RATES

The proposed rates follow the same lot sizes as the current rate structure but the cost allocation has been adjusted to recognize that some of the system's fixed costs are fairly equal per connection regardless of the size of lot. Some of these costs relate to the management of the system and accounts rather than operation and maintenance costs such as pumping that are increased with the amount of water delivered which is directly related to the size of lots. Therefore, more of the fixed costs are assigned to smaller lots which take some cost from the larger lots.

FIGURE 3.1: RECOMMENDED PRESSURIZED IRRIGATION RATE STRUCTURE

Proposed Pressurized Irrigation - Reliance on Combined Water Coverage for 1.25 X Coverage			
Table No.	Base Fee		
701	Acre	$	104.72
701	Half Acre		52.36
701	Third Acre		34.56
701	Quarter Acre		26.18

PRESSURIZED IRRIGATION DEMAND ANALYSIS

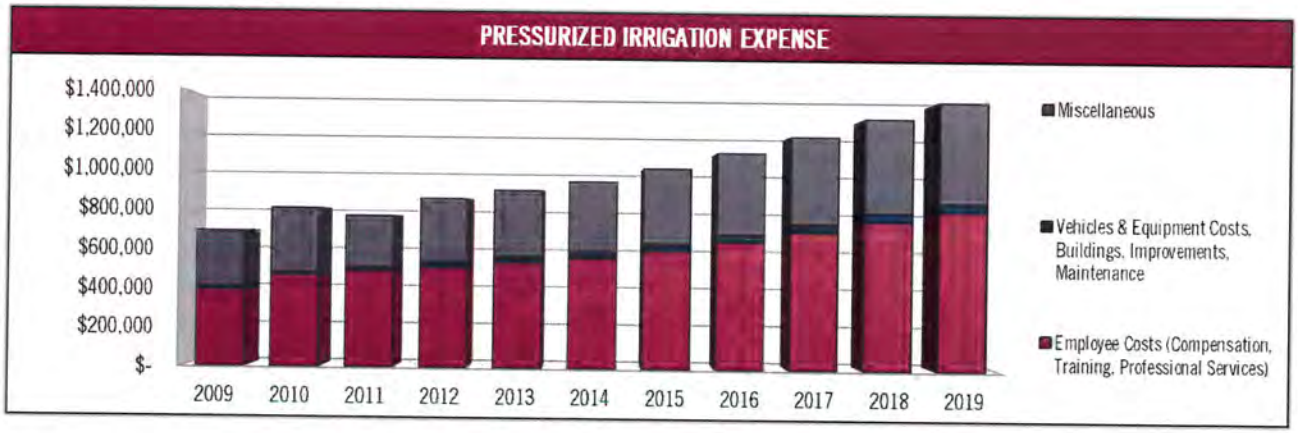
The PI system currently has individual meters installed on approximately 10% of connections. Overall, the City has 1,214 existing irrigated acres in the PI system. Three year usage data was completed on the metered connections and it was determined average of 0.62 acre feet of water was used per year per connection. Average peak month water use per meter was 1528 gallons per day. Based on this data an equivalent residential connection (ERC) was identified as 0.5 acre feet of PI per year.

PRESSURIZED IRRIGATION REVENUE REQUIREMENTS

PRESSURIZED IRRIGATION OPERATIONS AND MAINTENANCE EXPENSE

Several of the costs assigned to the pressurized irrigation system are shared with the culinary water system. The pressurized irrigation system is not operated throughout the entire year. Figure 3.3 shows the general cost categories defined for the pressurized irrigation system starting at approximately $814,240 per year in 2013 and increasing to approximately $1.1M in 2021. The operations and maintenance costs are also added to the capital project and bond financing costs to determine the total costs that rates must fund for the pressurized irrigation system.

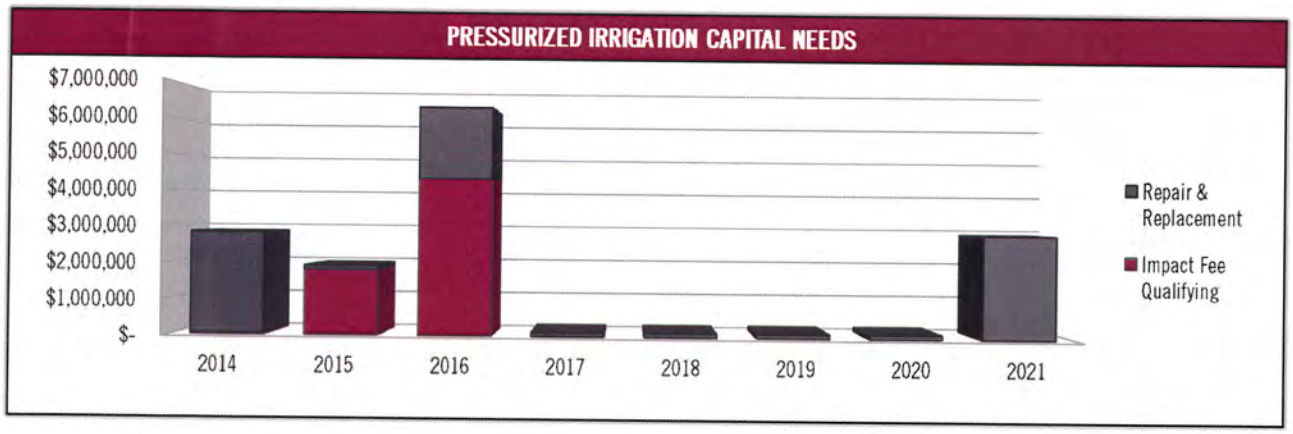
FIGURE 3.3: PRESSURIZED IRRIGATION EXPENSE



PRESSURIZED IRRIGATION CAPITAL PROJECTS

The City has recently put a lot of funding toward water capital projects and has identified through the current pressurized irrigation CFP that future water capital facilities remain a priority.

FIGURE 3.4: PRESSURIZED IRRIGATION CAPITAL PROJECT EXPENSE



FUTURE DEBT SERVICE PAYMENTS

There are outstanding bonds associated with the pressurized irrigation system. The City issued debt in 2005 and 65.36% of the 2009 bond that related to the PI utility. Two future bonds are expected in 2014 and 2016. As shown in Figure 3.5 all of the debt that the City must issue through 2021 for the water utilities relates to the PI system.

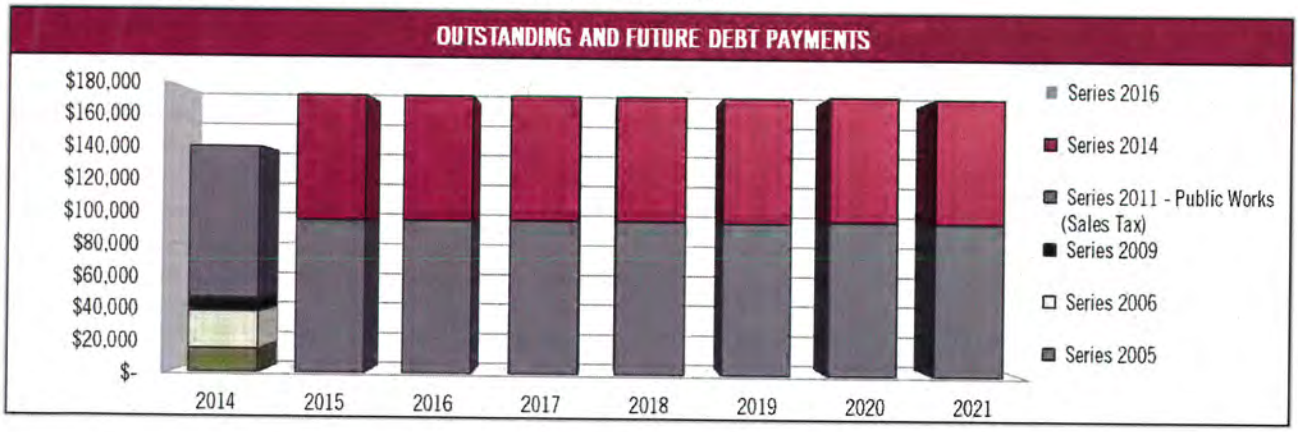
FUTURE PROPOSED BONDS

FIGURE 3.5: SUMMARY OF OUTSTANDING AND FUTURE CULINARY AND PI WATER DEBT

Bond Issue	Total Par Amount	Interest	Total Debt Service	% to Water	% to PI
Series 2011 Public Works	$ 4,000,000	$ 1,820,163	$ 5,820,163	33%	16%
Series 2014 Water Revenue Bond	10,000,000	4,406,184	14,406,184	11%	89%
Series 2016 Water Revenue Bond	4,395,000	1,937,309	6,332,309	0%	100%
Totals	**$ 18,395,000**	**$ 8,163,655**	**$ 26,558,655**		

Figure 3.6 shows the schedule of outstanding and future debt payments. As mentioned previously, the Series 2005, 2006 and 2009 Bonds are anticipated to be refunded with the Series 2014 Bond.

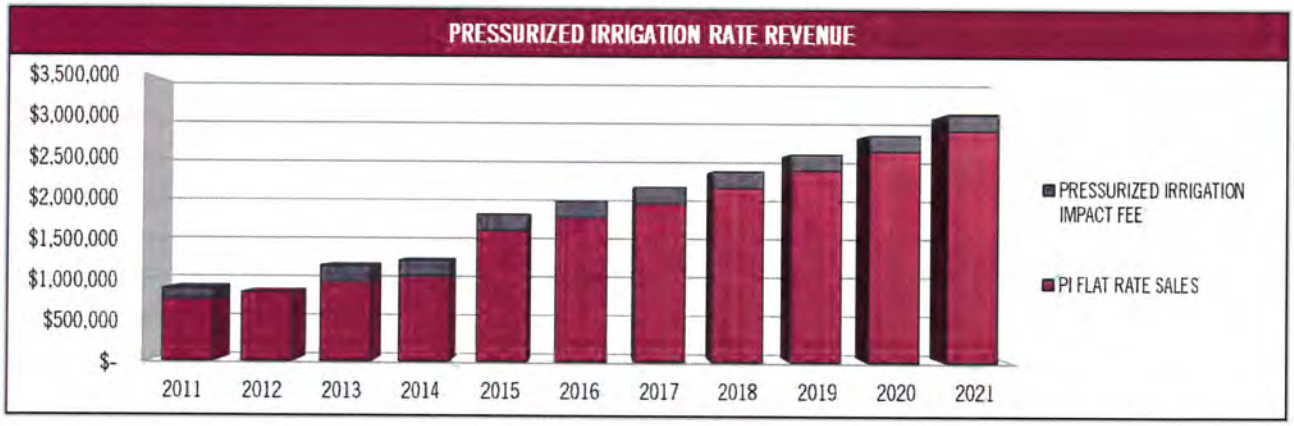
FIGURE 3.6: SCHEDULE OF OUTSTANDING AND FUTURE CULINARY AND PI DEBT PAYMENTS



Annual Revenue Requirement to be Collected

As shown below, the City needs to generate approximately $1.25M in FY 2014 through pressurized irrigation water rates to cover the costs of the PI system. This amount will increase to just over $3M in FY 2021 with increases to cost inflation, additional capital projects, and revenue requirements related to outstanding debt.

Figure 3.7: Recommended PI Annual Revenue Requirement (2011 to 2021)



CASH RESERVE LEVELS (DAYS OPERATION & MAINTENANCE IN RESERVE, DO&MR)

As explained in Chapter 1, DO&MR is a key ratio to analyze when calculating user rates. The City's minimum target ratio is 150 days of funds in reserve. The graph below shows the DO&MR for the pressurized irrigation utility fund.

Figure 3.8: Pressurized Irrigation Debt Service Coverage Ratio and Target

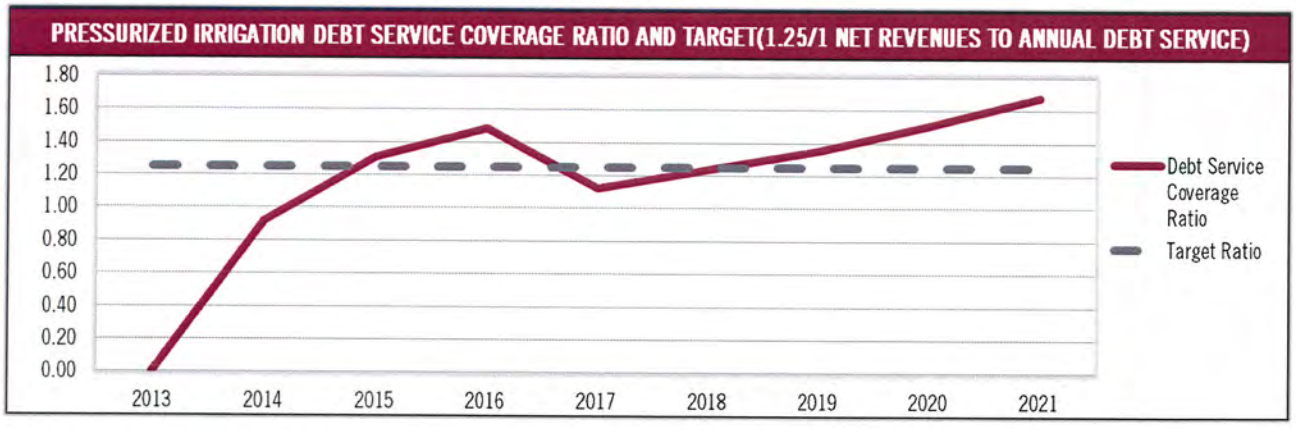


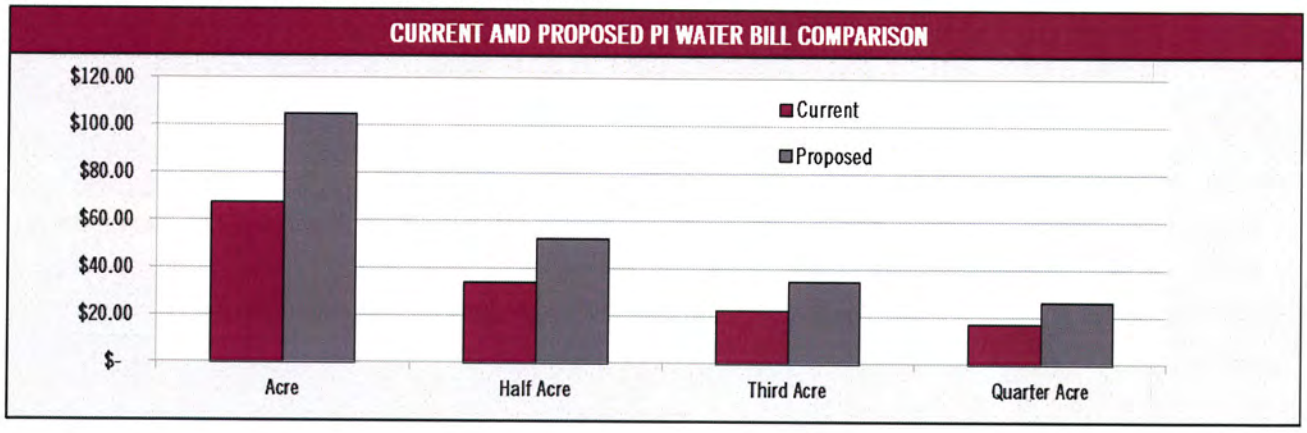
Figure 3.9: Pressurized Irrigation Rate Summary

PRESSURIZED IRRIGATION					
Year	2014	2015	2016	2017	2018
Increase to Pressurized Irrigation Revenues	60.0%	0.0%	10.0%	10.0%	10.0%
PI Connections	4,899	5,122	5,345	5,811	6,388
Growth Rates	4.82%	4.56%	4.35%	8.71%	9.94%
Net Change to Rates	55.18%	0.00%	0.00%	5.65%	1.29%
Coverage Ratio	0.92	1.31	1.48	1.12	1.24
Days Operations Expense Cash on Hand (Target: 150)	1,311	754	138	(27)	15

Impact on Residential and Commercial/Industrial User Rates

The recommended pressurized irrigation rates will change the cost that users pay monthly for pressurized irrigation service.

Figure 3.10: Change in Residential Pressurized Irrigation Bills



APPENDICES

WATER APPENDIX A: CURRENT AND PROPOSED CULINARY WATER AND PRESSURIZED IRRIGATION USER RATES

Saratoga Springs City Utility User Rate Analysis - February 2014

Table A.1: Current Culinary Water Rates

Culinary Water All Users						
Minimum	Maximum	Price per 1Kgal		Table No.	Base Fee	
-	999,999,999	$	1.55	101	All Meters*	$ 15.08

*Single family homes in the City are allowed a 5/8" or 3/4" meter

Hydrant Meter Water Usage						
Minimum	Maximum	Price per 1Kgal		Table No.	Base Fee	
-	999,999,999	$	1.33	102	All Meters*	$ -

Condominiums						
Minimum	Maximum	Price per 1Kgal		Table No.	Base Fee	
-	999,999,999	$	1.40	104	All Meters	$ 15.08

Daybreak Bypass Meter						
Minimum	Maximum	Price per 1Kgal		Table No.	Base Fee	
-	999,999,999	$	1.40	105	All Meters	$ -

TABLE A.2: Proposed Water Rate Structures

Culinary Water Residential With 3,000 Gal Allotment						
Minimum	Maximum	Price per 1Kgal		Table No.	Base Fee	
-	3,000	$	-	101	0.75"	$ 17.75
3,001	7,000		2.40	102	1"	17.75
7,001	12,000		3.25			
12,001	999,999,999		4.00			

Culinary Water Multi-Family/Condominiums - Per Unit With 3,000 Gal Allotment						
Minimum	Maximum	Price per 1Kgal		Table No.	Base Fee	
-	3,000	$	-	103	3/4"	$ 17.75
3,001	7,000		2.40	104	1"	17.75
7,001	12,000		3.25			
12,001	999,999,999		4.00			

Culinary Water Commercial/Industrial per Connection With 3,000 Gal Allotment					
Minimum	Maximum	Price per 1Kgal	Table No.	Base Fee	
-	Unlimited	1.65	112	3/4"	$ 17.75
			113	1"	23.08
			114	1.5"	28.40
			115	2"	46.15
			116	3"	177.50
			117	4"	225.43
			118	6"	339.03
			119	8"	468.60

Table A.3: Current Pressurized Irrigation Rates

Current Pressurized Irrigation			
Table No.	Base Fee		
701	Acre	$	67.48
701	Half Acre		33.74
701	Third Acre		22.27
701	Quarter Acre		16.87

Table A.4 Proposed Pressurized Irrigation Rates

Proposed Pressurized Irrigation - Reliance on Combined Water Coverage for 1.25 X Coverage			
Table No.	Base Fee		
701	Acre	$	104.72
701	Half Acre		52.36
701	Third Acre		34.56
701	Quarter Acre		26.18

WATER APPENDIX B: COMBINED CULINARY AND PI COVERAGE

Saratoga Springs City Utility User Rate Analysis - February 2014

	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total Blended Increase to Culinary/PI Rate Revenues	5.21%	4.07%	13.38%	3.50%	4.67%	4.98%	4.94%	4.89%	4.37%
Growth Rates		4.82%	4.56%	4.35%	8.71%	9.94%	9.75%	9.58%	7.53%
Net Change to Rates		3.32%	22.19%	2.65%	0.62%	0.03%	0.12%	0.20%	1.20%
Change to Non Rate Revenue	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Coverage Ratio	-	2.91	2.34	2.48	1.93	2.09	2.25	2.44	2.63
Days Operational Expense Cash on Hand (Target: 150)	127	1,252	632	442	435	469	517	579	395

Table B.1: Combined Culinary and Pressurized Irrigation Coverage Table

	-	3,185,000	7,668,732	4,429,059	3,259,128	3,441,559	4,008,312	4,766,416	5,747,240	
Fiscal Year	2011	2012	2013	BUDGET 2014	2015	2016	2017	2018	2019	2020	2021
Annual Cash Balances (Target: > 150 Days O&M Budget)		$ -	$ -	$ 3,185,000	$ 7,668,732	$ 4,429,059	$ 3,259,128	$ 3,441,559	$ 4,008,312	$ 4,766,416	$ 5,747,240
Target Cash Balances	676,664	785,211	837,194	918,924	1,050,711	1,105,085	1,186,364	1,280,918	1,381,790	1,489,431	1,590,191
Operational Revenues											
CULINARY WATER METERED SALES	$ 1,273,546	$ 1,428,884	$ 1,534,486	$ 1,671,708	$ 1,825,119	$ 1,904,512	$ 2,070,395	$ 2,276,192	$ 2,498,120	$ 2,737,440	$ 2,943,570
PRESSURIZED IRRIGATION WATER SALES	751,692	842,121	973,040	1,040,036	1,612,148	1,773,362	1,950,699	2,145,769	2,360,345	2,596,380	2,856,018
OTHER CULINARY WATER OPERATIONAL REVENUES	138,903	216,242	272,266	180,600	184,212	187,896	191,654	195,487	199,397	203,385	207,453
OTHER PRESSURIZED IRRIGATION OPERATIONAL REVENUES	-	0	-	-	-	-	(0)	-	-	-	-
Total Operational Revenues	$ 2,164,141	$ 2,487,248	$ 2,779,792	$ 2,892,344	$ 3,621,479	$ 3,865,770	$ 4,212,747	$ 4,617,448	$ 5,057,863	$ 5,537,205	$ 6,007,040
Non-Operational Revenues											
CULINARY NON-OPERATIONAL NET REVENUES/(EXPENSE)	$ 63,235	$ 56,359	$ 65,174	$ 55,000	$ 56,100	$ 57,222	$ 58,366	$ 59,534	$ 60,724	$ 61,939	$ 63,178
PI NON-OPERATIONAL NET REVENUES/(EXPENSE)	-	-	-	-	-	-	-	-	-	-	-
CULINARY WATER IMPACT FEES (Non-LMMWC)	646,500	1,617,060	1,519,661	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
PRESSURIZED IRRIGATION IMPACT FEES	141,600	(2,665)	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000
Total Non-Operational Revenues	$ 851,335	$ 1,670,755	$ 1,784,835	$ 555,000	$ 556,100	$ 557,222	$ 558,366	$ 559,534	$ 560,724	$ 561,939	$ 563,178
Total Operational Revenues	$ 3,015,476	$ 4,158,003	$ 4,564,627	$ 3,447,344	$ 4,177,579	$ 4,422,992	$ 4,771,114	$ 5,176,981	$ 5,618,587	$ 6,099,144	$ 6,570,218
Annual % Change		*37.89%*	*9.78%*	*-24.48%*	*21.18%*	*5.87%*	*7.87%*	*8.51%*	*8.53%*	*8.55%*	*7.72%*
Operational Expenses					4,777,579	5,022,992	5,371,114	5,776,981	6,218,587	6,699,144	7,170,218
PRESSURIZED IRRIGATION OPERATIONAL EXPENSES	$ (956,316)	$ (1,104,152)	$ (1,267,008)	$ (1,376,068)	$ (1,651,343)	$ (1,736,800)	$ (1,864,542)	$ (2,013,146)	$ (2,171,681)	$ (2,340,855)	$ (2,499,214)
CULINARY WATER OPERATIONAL EXPENSES	(690,232)	(806,528)	(770,163)	(859,980)	(905,387)	(952,241)	(1,022,278)	(1,103,754)	(1,190,674)	(1,283,428)	(1,370,252)
Total Operational Expenses	$ (1,646,548)	$ (1,910,680)	$ (2,037,172)	$ (2,236,048)	$ (2,556,730)	$ (2,689,041)	$ (2,886,820)	$ (3,116,900)	$ (3,362,356)	$ (3,624,283)	$ (3,869,466)
Annual % Change		*16.04%*	*6.62%*	*9.76%*	*14.34%*	*5.18%*	*7.36%*	*7.97%*	*7.87%*	*7.79%*	*6.76%*
					(2,556,730)	(2,689,041)	(2,886,820)	(3,116,900)	(3,362,356)	(3,624,283)	(3,869,466)
Net Revenues Available for Debt Service	$ 1,368,928	$ 2,247,323	$ 2,527,455	$ 1,211,296	$ 1,620,848	$ 1,733,951	$ 1,884,294	$ 2,060,082	$ 2,256,232	$ 2,474,861	$ 2,700,752
Future Debt					1,620,848	1,733,951	1,884,294	2,060,082	2,256,232	2,474,861	2,700,752
Series 2005	$ (147,701)	$ (147,590)	$ (147,365)	$ (147,024)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Series 2006	(232,883)	(233,403)	(232,763)	(232,995)	-	-	-	-	-	-	-
Series 2009	(78,070)	(78,240)	(78,326)	(78,330)	-	-	-	-	-	-	-
Series 2011 - Public Works (Sales Tax)	-	(94,953)	(95,215)	(95,426)	(95,590)	(95,704)	(95,769)	(95,785)	(95,198)	(96,177)	(95,394)
Series 2011 - Public Works (Sales Tax) - Pond 6	-	-	-	-	(46,472)	(46,528)	(46,560)	(46,568)	(46,280)	(46,760)	(46,376)
Series 2014	-	-	-	-	(722,459)	(719,650)	(722,550)	(718,475)	(722,300)	(720,750)	(719,775)
Series 2016	-	-	-	-	-	-	(315,984)	(317,500)	(319,350)	(315,350)	(315,475)
Series 2020	-	-	-	-	-	-	-	-	-	-	-
Total Outstanding and Future Debt	$ (458,654)	$ (554,186)	$ (553,669)	$ (553,775)	$ (864,521)	$ (861,882)	$ (1,180,863)	$ (1,178,328)	$ (1,183,128)	$ (1,179,037)	$ (1,177,020)
				(553,775)	(864,521)	(861,882)	(1,180,863)	(1,178,328)	(1,183,128)	(1,179,037)	(1,177,020)
Rate Stabilization Fund - Water Rights	$ -	$ -	$ -	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000
Coverage Ratio with Impact Fees (Min: >1.25, Target: >1.5)				2.91	2.34	2.48	1.93	2.09	2.25	2.44	2.63
Coverage Ratio Without Impact Fees (Min: >1.00)				2.01	1.76	1.90	1.51	1.66	1.82	2.01	2.21
				$ 657,522	$ 756,328	$ 872,069	$ 703,431	$ 881,754	$ 1,073,104	$ 1,295,824	$ 1,523,732
Net Revenues After Debt Service				$ 657,522	$ 756,328	$ 872,069	$ 703,431	$ 881,754	$ 1,073,104	$ 1,295,824	$ 1,523,732
Culinary Water Capital Expenses	$ -	$ -	$ -	$ (145,790)	$ (2,064,000)	$ (200,000)	$ (406,000)	$ (200,000)	$ (200,000)	$ (200,000)	$ (200,000)
Pressurized Irrigation Capital Expenses	-	-	-	(2,853,000)	(1,932,000)	(6,342,000)	(115,000)	(115,000)	(115,000)	(115,000)	(2,883,000)
LMMWCPayoff	-	-	-	-	-	-	-	-	-	-	-
Bond Proceeds	-	-	-	6,825,000	-	4,500,000	-	-	-	-	-
Total Net Capital Expenses				$ 3,826,210	$ (3,996,000)	$ (2,042,000)	$ (521,000)	$ (315,000)	$ (315,000)	$ (315,000)	$ (3,083,000)
				$ 3,826,210	$ (3,996,000)	$ (2,042,000)	$ (521,000)	$ (315,000)	$ (315,000)	$ (315,000)	$ (3,083,000)
Net Revenues After Debt Services	$ 910,273	$ 1,693,136	$ 1,973,786	$ 657,522	$ 756,328	$ 872,069	$ 703,431	$ 881,754	$ 1,073,104	$ 1,295,824	$ 1,523,732
Ending Cash Balance		$ -	$ 710,000	$ 7,668,732	$ 4,429,059	$ 3,259,128	$ 3,441,559	$ 4,008,312	$ 4,766,416	$ 5,747,240	$ 4,187,972
				$ 7,668,732	$ 4,429,059	$ 3,259,128	$ 3,441,559	$ 4,008,312	$ 4,766,416	$ 5,747,240	$ 4,187,972

FOOTNOTES

1 Cash balances is combination of operational cash, impact fees, and bond proceeds

Red numbers in the coverage table are for cross checking tables

Fund 51	650,000
Culinary Water Impact Fees	593,000
Pressurized Irrigation Impact Fees	(58,000)
Water Rights Fund	2,000,000
Beginning Cash Fund Balance	$ 3,185,000

WATER APPENDIX C: CULINARY COVERAGE

Saratoga Springs City Utility User Rate Analysis - February 2014

	2013	2014	2015	2016	2017	2018	2019	2020	2021
Increase to Culinary Water Revenues -March 2014 Adoption	0.00%	9.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Growth Rates	4.96%	4.82%	4.56%	4.35%	8.71%	9.94%	9.75%	9.58%	7.53%
Net Change to Rates		4.18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Change to Non-Rate Revenues	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Coverage Ratio	-	5.88	4.11	4.10	4.34	4.71	5.11	5.52	5.85
Days Operational Expense Cash on Hand (Target: 150)	205	1,239	1,032	710	741	772	841	821	862

Table C.1: Culinary Water Coverage Table

Fiscal Year	2011	2012	2013	BUDGET 2014	2015	2016	2017	2018	2019	2020	2021
Beginning Annual Operating Cash Balance	$ -	$ -	$ -	$ 3,243,000	$ 4,527,027	$ 3,003,209	$ 3,342,323	$ 3,518,102	$ 3,962,500	$ 4,475,565	$ 5,063,166
Target Cash Balances	393,007	453,761	520,688	565,507	678,634	713,754	766,250	827,320	892,472	961,995	1,027,074
Operational Revenues											
WATER METERED SALES	$ 1,273,546	$ 1,428,884	$ 1,534,486	$ 1,671,708	$ 1,825,119	$ 1,904,512	$ 2,070,395	$ 2,276,192	$ 2,498,120	$ 2,737,440	$ 2,943,570
OTHER (CONSTRUCTION WATER)	17,300	33,669	58,344	23,100	23,562	24,033	24,514	25,004	25,504	26,014	26,535
SERVICING INSTALLATIONS	117,200	181,345	210,882	157,500	160,650	163,863	167,140	170,483	173,893	177,371	180,918
INTEREST EARNINGS	4,403	1,229	3,040	-	-	-	-	-	-	-	-
CULINARY WATER IMPACT FEE	215,250	539,020	506,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
CULINARY WATER IMPACT FEE DUE TO LMMWC	431,250	1,078,040	1,013,661	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000
Total Operational Revenues	$ 2,058,948	$ 3,262,187	$ 3,326,413	$ 2,752,308	$ 2,909,331	$ 2,992,408	$ 3,162,049	$ 3,371,679	$ 3,597,517	$ 3,840,825	$ 4,051,022
Non-Operational Revenues											
FORFEITURES AND PENALTIES	$ 63,235	$ 56,359	$ 65,174	$ 55,000	$ 56,100	$ 57,222	$ 58,366	$ 59,534	$ 60,724	$ 61,939	$ 63,178
Total Non-Operational Revenues	$ 63,235	$ 56,359	$ 65,174	$ 55,000	$ 56,100	$ 57,222	$ 58,366	$ 59,534	$ 60,724	$ 61,939	$ 63,178
Annual % Change		*58.44%*	*1.97%*	*-17.26%*	*5.71%*	*2.86%*	*5.67%*	*6.63%*	*6.70%*	*6.76%*	*5.47%*
Operational Expenses											
SALARIES & WAGES	$ (300,342)	$ (142,981)	$ (162,616)	$ (161,239)	$ (169,752)	$ (178,537)	$ (191,669)	$ (206,944)	$ (223,241)	$ (240,632)	$ (256,911)
EMPLOYEE BENEFITS	(119,487)	(81,558)	(94,631)	(88,377)	(93,043)	(97,858)	(105,056)	(113,429)	(122,361)	(131,893)	(140,816)
OVERTIME PAY	(11,592)	(18,395)	(25,681)	(20,233)	(21,301)	(22,404)	(24,051)	(25,968)	(28,013)	(30,196)	(32,238)
UNIFORMS / CLOTHING	(3,841)	(2,510)	(5,317)	(2,862)	(3,013)	(3,169)	(3,402)	(3,673)	(3,963)	(4,271)	(4,560)
ADMINISTRATIVE CHARGE	(71,418)	(422,542)	(404,648)	(364,195)	(383,424)	(403,267)	(432,927)	(467,431)	(504,241)	(543,522)	(580,291)
VEHICLES	(31,012)	(589)	-	(21,327)	(22,453)	(23,615)	(25,352)	(27,372)	(29,528)	(31,828)	(33,981)
VEHICLE MAINTENANCE	(7,596)	(16,739)	(13,378)	(16,500)	(17,371)	(18,270)	(19,614)	(21,177)	(22,845)	(24,624)	(26,290)
GAS CARD	(16,642)	(22,182)	(21,732)	(16,800)	(17,687)	(18,602)	(19,971)	(21,562)	(23,260)	(25,072)	(26,768)
POWER AND PUMPING (70% TO CULINARY)	(127,412)	(169,212)	(138,585)	(204,000)	(214,771)	(225,886)	(242,499)	(261,827)	(282,446)	(304,448)	(325,044)
SCADA SYSTEM EXPENSES (33% TO CULINARY)	(189)	(848)	(200)	(12,177)	(12,820)	(13,483)	(14,475)	(15,629)	(16,860)	(18,173)	(19,402)
PROF & TECH SERVICE - ATTORNEY (50% TO CULINARY)	(16,263)	(5,535)	-	(6,000)	(6,317)	(6,644)	(7,132)	(7,701)	(8,307)	(8,954)	(9,560)
PROF & TECH SERVICE - ENGINEER (50% TO CULINARY)	(5,953)	-	-	(1,250)	(1,316)	(1,384)	(1,486)	(1,604)	(1,731)	(1,865)	(1,992)
BLUE STAKES EXPENSES (50% TO CULINARY)	(1,555)	(2,337)	(2,551)	(1,950)	(2,053)	(2,159)	(2,318)	(2,503)	(2,700)	(2,910)	(3,107)
EDUCATION/TRAINING	(1,033)	(1,035)	(6,868)	(6,696)	(7,050)	(7,414)	(7,960)	(8,594)	(9,271)	(9,993)	(10,669)
CONTRACT SERVICES	(4,830)	(5,397)	(4,948)	(23,500)	(24,741)	(26,021)	(27,935)	(30,161)	(32,537)	(35,071)	(37,444)
SOURCE AND SUPPLY	(160)	-	-	-	-	-	-	-	-	-	-
PURIFICATION	(2,750)	(4,800)	(4,626)	(4,000)	(4,211)	(4,429)	(4,755)	(5,134)	(5,538)	(5,970)	(6,373)
WATER METER	(164,684)	(156,678)	(270,878)	(300,585)	(316,456)	(332,832)	(357,312)	(385,790)	(416,171)	(448,591)	(478,938)
SHOP AND MAINTENANCE	(4,465)	(12,322)	(48,335)	(11,800)	(12,423)	(13,066)	(14,027)	(15,145)	(16,338)	(17,610)	(18,802)
CUL WATER EQUIPMENT	(1,480)	(4,842)	(854)	(7,020)	(7,391)	(7,773)	(8,345)	(9,010)	(9,719)	(10,477)	(11,185)
C SHOP AND MAINTENANCE DISTRIBUTION	(10,863)	(36,775)	(37,527)	(66,400)	(69,906)	(73,524)	(78,931)	(85,222)	(91,933)	(99,095)	(105,799)
C SHOP AND MAINTENANCE WELL HOUSE	(52,810)	14,007	(15,213)	(35,000)	(36,848)	(38,755)	(41,605)	(44,921)	(48,459)	(52,234)	(55,767)
BAD DEBT EXPENSE	-	(10,881)	(8,400)	(4,157)	(4,376)	(4,603)	(4,942)	(5,335)	(5,756)	(6,204)	(6,624)
MISCELLANEOUS EXPENSES	-	-	(20)	-	-	-	-	-	-	-	-
TRANSFER OUT-CAP PROJECT	-	-	-	-	-	-	-	-	-	-	-
Replacement Meters	-	-	-	-	-	-	-	-	-	-	-
Additional Employee	-	-	-	-	(148,000)	(155,659)	(167,108)	(180,426)	(194,635)	(209,797)	(223,990)
Total Operational Expenses	$ (956,316)	$ (1,104,152)	$ (1,267,008)	$ (1,376,068)	$ (54,619)	(57,446)	(61,671)	(66,586)	(71,829)	(77,425)	(82,663)
		15.46%	*14.75%*	*8.61%*	$ (1,651,343)	$ (1,736,800)	$ (1,864,542)	$ (2,013,146)	$ (2,171,681)	$ (2,340,855)	$ (2,499,214)
					20.00%	*5.18%*	*7.36%*	*7.97%*	*7.87%*	*7.79%*	*6.76%*
Payments to LMMWC				(600,000)	(600,000)	(600,000)	(600,000)	(600,000)	(600,000)	(600,000)	(600,000)
Net Revenues Available for Debt Service	$ 1,165,867	$ 2,214,394	$ 2,124,579	$ 831,240	$ 714,087	$ 712,829	$ 755,873	$ 818,067	$ 886,561	$ 961,909	$ 1,014,986
Outstanding Debt											
Series 2005	$ (14,770)	$ (14,759)	$ (14,736)	$ (14,702)							
Series 2006	(23,288)	(23,340)	(23,276)	(23,300)							
Series 2009	(7,807)	(7,824)	(7,833)	(7,833)							
Series 2011 - Public Works (Sales Tax)	-	(94,953)	(95,215)	(95,426)	(95,590)	(95,704)	(95,769)	(95,785)	(95,198)	(96,177)	(95,394)
Series 2014	-	-	-	-	(78,315)	(78,011)	(78,325)	(77,883)	(78,298)	(78,130)	(78,024)
Series 2016	-	-	-	-	-	-	-	-	-	-	-
Series 2020	-	-	-	-	-	-	-	-	-	-	-
Total Outstanding and Future Debt	$ (45,865)	$ (140,876)	$ (141,060)	$ (141,261)	$ (173,905)	$ (173,715)	$ (174,094)	$ (173,668)	$ (173,496)	$ (174,307)	$ (173,418)
Coverage Ratio with Impact Fees (Min: >1.25, Target: >1.5)				5.88	4.11	4.10	4.34	4.71	5.11	5.52	5.85
Coverage Ratio Without Impact Fees (Min: >1.00)				3.76	2.38	2.38	2.62	2.98	3.38	3.80	4.12
Net Operating Revenues After Debt Services				$ 689,979	$ 540,182	$ 539,115	$ 581,779	$ 644,398	$ 713,064	$ 787,602	$ 841,567
Impact Fee Qualifying Capital Expense				$ -	$ (1,864,000)	$ -	$ (206,000)	$ -	$ -	$ -	$ -
Non-Impact Fee Qualifying Capital Expense				(145,790)	(200,000)	(200,000)	(200,000)	(200,000)	(200,000)	(200,000)	(200,000)
LMMWC Payoff											
Culinary Water Capital Expenses				$ (145,790)	$ (2,064,000)	$ (200,000)	$ (406,000)	$ (200,000)	$ (200,000)	$ (200,000)	$ (200,000)
Bond Proceeds				739,838	-	-	-	-	-	-	-
Ending Cash				$ 1,284,027	$ (1,523,818)	$ 339,115	$ 175,779	$ 444,398	$ 513,064	$ 587,602	$ 641,567
				4,527,027	3,003,209	3,342,323	3,518,102	3,962,500	4,475,565	5,063,166	5,704,734

WATER APPENDIX D: PI COVERAGE

Saratoga Springs City Utility User Rate Analysis - February 2014

Baseline Scenario - Meters Funded in 2014 Bonds

	2013	2014	2015	2016	2017	2018	2019	2020	2021
Increase to Pressurized Irrigation Revenues - March 2014 Adoption	0.00%	60.00%	0.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Growth Rates	4.96%	4.82%	4.56%	4.35%	8.71%	9.94%	9.75%	9.58%	7.53%
Net Change to Rates		55.18%	0.00%	5.65%	1.29%	0.06%	0.25%	0.42%	2.47%
Change to Non-Rate Revenues	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Coverage Ratio	-	0.92	1.31	1.48	1.12	1.24	1.36	1.51	1.68
Days Operational Expense Cash on Hand (Target: 365)	-	1,311	754	138	(27)	15	89	195	(404)

Table D.1: Pressurized Irrigation Coverage Table

Fiscal Year	2011	2012	2013	BUDGET 2014	2015	2016	2017	2018	2019	2020	2021
Beginning Annual Operating Cash Balance		$ -	$ -	$ (58,000)	$ 3,141,705	$ 1,425,850	$ (83,195)	$ (76,543)	$ 45,812	$ 290,852	$ 684,074
Target Cash Balances	$ 283,657	$ 331,450	$ 316,505	$ 353,416	$ 372,077	$ 391,332	$ 420,114	$ 453,597	$ 489,318	$ 527,436	$ 563,117
Revenues											
Operational Revenues			35.00%	9.00%	10.00%	10.00%	10.00%	12.00%	10.00%	2.00%	2.00%
WATER METERED SALES	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OTHER (CONSTRUCTION WATER)	-	-	-	-	-	-	-	-	-	-	-
SERVICING INSTALLATIONS	-	-	-	-	-	-	-	-	-	-	-
FORFEITURES AND PENALTIES	-	-	-	-	-	-	-	-	-	-	-
INTEREST EARNINGS	-	-	-	-	-	-	-	-	-	-	-
PI FLAT RATE SALES	751,692	842,121	973,040	1,040,036	$ 1,612,148	$ 1,773,362	$ 1,950,699	$ 2,145,769	$ 2,360,345	$ 2,596,380	$ 2,856,018
CONTRIBUTIONS	-	-	-	-	-	-	-	-	-	-	-
WATER RIGHTS DEVELOPER FEES	-	-	-	-	-	-	-	-	-	-	-
TRANSFERS FROM OTHER FUNDS	-	-	-	-	-	-	-	-	-	-	-
WATER FUND BAL - APPROPRIATED	-	-	-	-	-	-	-	-	-	-	-
APPROPRIATED RETAINED EARNINGS	-	-	-	-	-	-	-	-	-	-	-
TRANSFER TO GENERAL FUND	-	-	-	-	-	-	-	-	-	-	-
TRANSFER TO CAPTL PROJ FUND	-	-	-	-	-	-	-	-	-	-	-
LEASE FINANCING (LIABILITY)	-	-	-	-	-	-	-	-	-	-	-
DW BOND REVENUE	-	-	-	-	-	-	-	-	-	-	-
TRANSFER TO DEBT SERVICE FUND	-	-	-	-	-	-	-	-	-	-	-
PRESSURIZED IRRIGATION IMPACT FEE	141,600	(2,665)	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000
Total Operational Revenues	$ 893,292	$ 839,457	$ 1,173,040	$ 1,240,036	$ 1,812,148	$ 1,973,362	$ 2,150,699	$ 2,345,769	$ 2,560,345	$ 2,796,380	$ 3,056,018
Annual % Change		*-6.03%*	*39.74%*	*5.71%*	*46.14%*	*8.90%*	*8.99%*	*9.07%*	*9.15%*	*9.22%*	*9.28%*
Operational Expenses											
SALARIES & WAGES	$ (267,699)	$ (87,744)	$ (96,178)	$ (96,079)	$ (101,152)	$ (106,387)	$ (114,211)	$ (123,314)	$ (133,025)	$ (143,388)	$ (153,088)
EMPLOYEE BENEFITS	(89,822)	(41,410)	(40,308)	(45,845)	(48,266)	(50,763)	(54,497)	(58,840)	(63,474)	(68,419)	(73,047)
OVERTIME PAY	(5,897)	(2,792)	(9,768)	(8,330)	(8,770)	(9,224)	(9,902)	(10,691)	(11,533)	(12,432)	(13,273)
VEHICLES	(757)	-	-	(5,477)	(5,766)	(6,065)	(6,511)	(7,030)	(7,583)	(8,174)	(8,727)
VEHICLE MAINTENANCE	(4,834)	(1,866)	(3,117)	(5,500)	(5,790)	(6,090)	(6,538)	(7,059)	(7,615)	(8,208)	(8,763)
GASOLINE EXPENSES	(5,970)	(7,445)	(5,236)	(6,300)	(6,633)	(6,976)	(7,485)	(8,086)	(8,723)	(9,402)	(10,038)
PRESSURIZED IRRIGATION POWER & PUMPING	(107,282)	(159,348)	(121,538)	(142,700)	(150,235)	(158,009)	(169,631)	(183,150)	(197,573)	(212,964)	(227,371)
EDUCATION/TRAINING	(553)	(365)	(1,100)	(3,000)	(3,158)	(3,322)	(3,566)	(3,850)	(4,154)	(4,477)	(4,780)
CONTRACT SERVICES	-	-	-	(17,400)	(18,319)	(19,267)	(20,684)	(22,332)	(24,091)	(25,968)	(27,724)
PI SOURCE & SUPPLY	(95,301)	(37,632)	(30,535)	(25,000)	(26,320)	(27,682)	(29,718)	(32,087)	(34,613)	(37,310)	(39,834)
PI TRANSMISSION & DIST	-	-	-	-	-	-	-	-	-	-	-
SHOP AND MAINTENANCE	(6,268)	(1,668)	(10,175)	(5,000)	(5,264)	(5,536)	(5,944)	(6,417)	(6,923)	(7,462)	(7,967)
PRESSURIZED IRRIGATION EQUIPMENT	(3,996)	(1,186)	(188)	(5,500)	(5,790)	(6,090)	(6,538)	(7,059)	(7,615)	(8,208)	(8,763)
PI MAINTENANCE DISTRIBUTION	(13,530)	(19,508)	(13,121)	(55,000)	(57,904)	(60,901)	(65,380)	(70,591)	(76,150)	(82,082)	(87,634)
PI MAINTENANCE WELL & PUMPS	(9,361)	(36,186)	(35,086)	(28,000)	(29,478)	(31,004)	(33,284)	(35,937)	(38,767)	(41,787)	(44,614)
CANAL MAINTENANCE	(208)	(173)	(212)	(2,000)	(2,106)	(2,215)	(2,377)	(2,567)	(2,769)	(2,985)	(3,187)
MISCELLANEOUS EXPENSES	-	-	-	-	-	-	-	-	-	-	-
WATER METERS	-	-	-	-	-	-	-	-	-	-	-
ADMINISTRATIVE CHARGE	-	(327,116)	(341,258)	(330,172)	(347,605)	(365,594)	(392,483)	(423,764)	(457,135)	(492,746)	(526,080)
POWER AND PUMPING - WATER - 30%	(54,605)	(72,519)	(59,394)	(61,200)	(64,431)	(67,766)	(72,750)	(78,548)	(84,734)	(91,334)	(97,513)
SCADA SYSTEM EXPENSES - 33%	(378)	(1,696)	(400)	(12,177)	(12,820)	(13,483)	(14,475)	(15,629)	(16,860)	(18,173)	(19,402)
PROF AND TECH SERVICE - ATTORNEY - 50%	(16,263)	(5,535)	-	(6,000)	(6,317)	(6,644)	(7,132)	(7,701)	(8,307)	(8,954)	(9,560)
PROF AND TECH SERVICE - ENGINEER - 50%	(5,953)	-	-	(1,250)	(1,316)	(1,384)	(1,486)	(1,604)	(1,731)	(1,865)	(1,992)
BLUE STAKES - 50%	(1,555)	(2,337)	(2,551)	1,950	2,053	2,159	2,318	2,503	2,700	2,910	3,107
Total Operational Expenses	$ (690,232)	$ (806,528)	$ (770,163)	$ (859,980)	$ (905,387)	$ (952,241)	$ (1,022,278)	$ (1,103,754)	$ (1,190,674)	$ (1,283,428)	$ (1,370,252)
		16.85%	*-4.51%*	*11.66%*	*5.28%*	*5.18%*	*7.36%*	*7.97%*	*7.87%*	*7.79%*	*6.77%*
Net Revenues Available for Debt Service	$ 203,060	$ 32,929	$ 402,877	$ 380,056	$ 906,761	$ 1,021,122	$ 1,128,421	$ 1,242,015	$ 1,369,671	$ 1,512,952	$ 1,685,766
Outstanding Debt											
Series 2005	$ (132,931)	$ (132,831)	$ (132,628)	$ (132,322)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Series 2006	(209,595)	(210,063)	(209,487)	(209,696)	-	-	-	-	-	-	-
Series 2009	(70,263)	(70,416)	(70,494)	(70,497)	-	-	-	-	-	-	-
Series 2011 - Public Works (Sales Tax)				-	(46,472)	(46,528)	(46,560)	(46,568)	(46,280)	(46,760)	(46,376)
Series 2014	-	-	-	-	(644,143)	(641,639)	(644,225)	(640,592)	(644,002)	(642,620)	(641,751)
Series 2016	-	-	-	-	-	-	(315,984)	(317,500)	(319,350)	(315,350)	(315,475)
Series 2020	-	-	-	-	-	-	-	-	-	-	-
Total Outstanding and Future Debt	$ (412,789)	$ (413,310)	$ (412,609)	$ (412,514)	$ (690,615)	$ (688,167)	$ (1,006,769)	$ (1,004,660)	$ (1,009,632)	$ (1,004,730)	$ (1,003,602)
Coverage Ratio with Impact Fees (Min: >1.25, Target: >1.5)				0.92	1.31	1.48	1.12	1.24	1.36	1.51	1.68
Coverage Ratio Without Impact Fees (Min: >1.00)				0.44	1.02	1.19	0.92	1.04	1.16	1.31	1.48
Net Operating Revenues After Debt Services	$ (209,728)	$ (380,381)	$ (9,732)	$ (32,457)	$ 216,145	$ 332,955	$ 121,652	$ 237,355	$ 360,039	$ 508,222	$ 682,165
Impact Fee Qualifying Capital Expense		$ -		$ (46,000)	$ (1,817,000)	$ (4,367,000)	$ -	$ -	$ -	$ -	$ -
Non-Impact Fee Qualifying Capital Expense				(2,807,000)	(115,000)	(1,975,000)	(115,000)	(115,000)	(115,000)	(115,000)	(2,883,000)
Pressurized Irrigation Capital Expenses		$ -		$ (2,853,000)	$ (1,932,000)	$ (6,342,000)	$ (115,000)	$ (115,000)	$ (115,000)	$ (115,000)	$ (2,883,000)
Bond Proceeds			-	6,085,162	-	4,500,000	-	-	-	-	-
Ending Cash		$	$ 444,075	$ 3,141,704.93	$ 1,425,850	$ (83,195)	$ (76,543)	$ 45,812	$ 290,852	$ 684,074	$ (1,516,761)

APPENDIX E: CULINARY WATER CAPITAL PROJECTS

Saratoga Springs City Utility User Rate Analysis - February 2014

Table E.1: Total Culinary Water Rate and Impact Fee Eligible Projects

Description	Total Cost	Construction Year	PV Cost	2013	2014	2015	2016	2017	2018	2019	2020	2021	Construction Year Cost
8 Year Capital Projects													
CW - 2.0 Zone 2 North Source Capacity - Pump Station at U-73 & Line	$ 1,211,000	2015	$ 1,211,000	$ -	$ -	$ 1,211,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,211,000
CW - 3.0 Zone 1 Redwood Road Transmission Line	653,000	2015	653,000	-	-	653,000	-	-	-	-	-	-	653,000
CW - 4.0 CWP Source	206,000	2017	206,000	-	-	-	-	206,000	-	-	-	-	206,000
CW - 5.0 CWP Source	360,000	2023	360,000	-	-	-	-	-	-	-	-	-	-
Miscellaneous Water Project			-	-	145,790	200,000	200,000	200,000	200,000	200,000	200,000	200,000	1,545,790
			-	-	-	-	-	-	-	-	-	-	-
			-	-	-	-	-	-	-	-	-	-	-
Capital Facilities Plan Total	**2,430,000**		**$ 2,430,000**	**$ -**	**$ 145,790**	**$ 2,064,000**	**$ 200,000**	**$ 406,000**	**$ 200,000**	**$ 200,000**	**$ 200,000**	**$ 200,000**	**$ 3,615,790**

Table E.2: Total Culinary Water Impact Fee Eligible Projects

Description	% To Growth	Blank	Blank	2013	2014	2015	2016	2017	2018	2019	2020	2021	Construction Year Cost
8 Year Capital Projects													
CW - 2.0 Zone 2 North Source Capacity - Pump Station at U-73 & Line	100%			$ -	$ -	$ 1,211,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,211,000
CW - 3.0 Zone 1 Redwood Road Transmission Line	100%			-	-	653,000	-	-	-	-	-	-	653,000
CW - 4.0 CWP Source	100%			-	-	-	-	206,000	-	-	-	-	206,000
CW - 5.0 CWP Source	100%			-	-	-	-	-	-	-	-	-	-
Miscellaneous Water Project	0%			-	-	-	-	-	-	-	-	-	-
Capital Facilities Plan Total			**$ -**	**$ -**	**$ -**	**$ 1,864,000**	**$ -**	**$ 206,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,070,000**

Table E.3: Total Culinary Water Non-Impact Fee Projects

Description	% To Growth	Blank	Blank	2013	2014	2015	2016	2017	2018	2019	2020	2021	Construction Year Cost
8 Year Capital Projects													
CW - 2.0 Zone 2 North Source Capacity - Pump Station at U-73 & Line	0%			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CW - 3.0 Zone 1 Redwood Road Transmission Line	0%			-	-	-	-	-	-	-	-	-	-
CW - 4.0 CWP Source	0%			-	-	-	-	-	-	-	-	-	-
CW - 5.0 CWP Source	0%			-	-	-	-	-	-	-	-	-	-
Miscellaneous Water Project	100%			-	145,790	200,000	200,000	200,000	200,000	200,000	200,000	200,000	1,545,790
				-	-	-	-	-	-	-	-	-	-
Capital Facilities Plan Total			**$ -**	**$ -**	**$ 145,790**	**$ 200,000**	**$ 200,000**	**$ 200,000**	**$ 200,000**	**$ 200,000**	**$ 200,000**	**$ 200,000**	**$ 1,545,790**

APPENDIX F: PRESSURIZED IRRIGATION CAPITAL PROJECTS

Saratoga Springs City Utility User Rate Analysis - February 2014

Table F.1: Total PI Rate and Impact Fee Eligible Projects

Description	Construction Year	Construction Cost	PV Cost	2013	2014	2015	2016	2017	2018	2019	2020	2021	Construction Year Cost
8 Year Capital Projects													
SW - 1.0 Zone 2 North Storage - Expand Pond #6	2012	$ 656,000	$ 656,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SW - 2.0 Zone 2 North Source - Sunrise Well	2012	710,000	710,000	-	-	-	-	-	-	-	-	-	710,000
SW - 2.0A Zone 2 North Transmission	2014	46,000	46,000	-	46,000	-	-	-	-	-	-	-	46,000
SW - 3.0 Zone 2 South Source	2015	1,817,000	1,817,000	-	-	1,817,000	-	-	-	-	-	-	1,817,000
SW - 4.0 Zone 1 North Source and Storage Welby Jacob Canal	2016	2,886,000	2,886,000	-	-	-	2,886,000	-	-	-	-	-	2,886,000
SW - 5.0 Zone 1 North Transmission	2016	1,481,000	1,481,000	-	-	-	1,481,000	-	-	-	-	-	1,481,000
SW - 6.0 Installation of PI Meters	2014	2,774,000	2,774,000	-	2,774,000	-	-	-	-	-	-	-	2,774,000
SW - 7.0 Zone 2 Source - Well #1 Replacement	2016	1,860,000	1,860,000	-	-	-	1,860,000	-	-	-	-	-	1,860,000
SW - 8.0 Zone 3 North - Pump Station and Storage	2021	2,768,000	2,768,000	-	-	-	-	-	-	-	-	2,768,000	2,768,000
Miscellaneous Pressurized Irrigation Projects	2014	33,000	33,000	-	33,000	115,000	115,000	115,000	115,000	115,000	115,000	115,000	838,001
Capital Facilities Plan Total		**$ 15,031,000**	**$ 15,031,000**	**$ -**	**$ 2,853,000**	**$ 1,932,000**	**$ 6,342,000**	**$ 115,000**	**$ 115,000**	**$ 115,000**	**$ 115,000**	**$ 2,883,000**	**$ 15,180,001**

Table F.2: Total PI Impact Fee Eligible Projects

Description	% To Growth	Blank	Blank	2013	2014	2015	2016	2017	2018	2019	2020	2021	Construction Year Cost
8 Year Capital Projects													
SW - 1.0 Zone 2 North Storage - Expand Pond #6	50%			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SW - 2.0 Zone 2 North Source - Sunrise Well	100%			-	-	-	-	-	-	-	-	-	710,000
SW - 2.0A Zone 2 North Transmission	100%			-	46,000	-	-	-	-	-	-	-	46,000
SW - 3.0 Zone 2 South Source	100%			-	-	1,817,000	-	-	-	-	-	-	1,817,000
SW - 4.0 Zone 1 North Source and Storage Welby Jacob Canal	100%			-	-	-	2,886,000	-	-	-	-	-	2,886,000
SW - 5.0 Zone 1 North Transmission	100%			-	-	-	1,481,000	-	-	-	-	-	1,481,000
SW - 6.0 Installation of PI Meters	0%			-	-	-	-	-	-	-	-	-	-
SW - 7.0 Zone 2 Source - Well #1 Replacement	0%			-	-	-	-	-	-	-	-	-	-
SW - 8.0 Zone 3 North - Pump Station and Storage	0%			-	-	-	-	-	-	-	-	-	-
Miscellaneous Pressurized Irrigation Projects	0%			-	-	-	-	-	-	-	-	-	-
Capital Facilities Plan Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ 46,000**	**$ 1,817,000**	**$ 4,367,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 6,940,000**

Table F.3: Total Pressurized Irrigation Non-Impact Fee Projects

Description	% To Non-Impact Fee	Blank	Blank	2013	2014	2015	2016	2017	2018	2019	2020	2021	Construction Year Cost
8 Year Capital Projects													
SW - 1.0 Zone 2 North Storage - Expand Pond #6	50%			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SW - 2.0 Zone 2 North Source - Sunrise Well	0%			-	-	-	-	-	-	-	-	-	-
SW - 2.0A Zone 2 North Transmission	0%			-	-	-	-	-	-	-	-	-	-
SW - 3.0 Zone 2 South Source	0%			-	-	-	-	-	-	-	-	-	-
SW - 4.0 Zone 1 North Source and Storage Welby Jacob Canal	0%			-	-	-	-	-	-	-	-	-	-
SW - 5.0 Zone 1 North Transmission	0%			-	-	-	-	-	-	-	-	-	-
SW - 6.0 Installation of PI Meters	100%			-	2,774,000	-	-	-	-	-	-	-	-
SW - 7.0 Zone 2 Source - Well #1 Replacement	100%			-	-	-	1,860,000	-	-	-	-	-	2,774,000
SW - 8.0 Zone 3 North - Pump Station and Storage	100%			-	-	-	-	-	-	-	-	-	1,860,000
Miscellaneous Pressurized Irrigation Projects	100%			-	33,000	115,000	115,000	115,000	115,000	115,000	115,000	115,000	838,000
Capital Facilities Plan Total		**$ -**	**$ -**	**$ -**	**$ 2,807,000**	**$ 115,000**	**$ 1,975,000**	**$ 115,000**	**$ 115,000**	**$ 115,000**	**$ 115,000**	**$ 2,883,000**	**$ 8,240,001**

WATER APPENDIX G: OUTSTANDING AND FUTURE WATER DEBT

Saratoga Springs City Utility User Rate Analysis - February 2014

Table G.1: Debt Summary

Bond Issue	Total Par Amount	Interest	Total Debt Service	% to Water	% to PI
Series 2011 Public Works	$ 4,000,000	$ 1,820,163	$ 5,820,163	33%	16%
Series 2014 Water Revenue Bond	10,000,000	4,406,184	14,406,184	11%	89%
Series 2016 Water Revenue Bond	4,395,000	1,937,309	6,332,309	0%	100%
Totals	**$ 18,395,000**	**$ 8,163,655**	**$ 26,558,655**		

Table G.2: Series 2014 Water Revenue Bond

	Principal	Interest	Total D/S
2014	$ -	$ -	$ -
2015	470,000	252,459	722,459
2016	350,000	369,650	719,650
2017	360,000	362,550	722,550
2018	365,000	353,475	718,475
2019	380,000	342,300	722,300
2020	390,000	330,750	720,750
2021	405,000	314,775	719,775
2022	425,000	294,025	719,025
2023	450,000	272,150	722,150
2024	470,000	249,150	719,150
2025	490,000	227,600	717,600
2026	515,000	207,500	722,500
2027	535,000	186,500	721,500
2028	555,000	164,700	719,700
2029	580,000	142,000	722,000
2030	600,000	118,400	718,400
2031	625,000	93,900	718,900
2032	650,000	68,400	718,400
2033	680,000	41,800	721,800
2034	705,000	14,100	719,100
Total	**$ 10,000,000**	**$ 4,406,184**	**$ 14,406,184**

Table G.3: Series 2016 Water Revenue Bond

	Principal	Interest	Total D/S
2016	$ -	$ -	$ -
2017	205,000	110,984	315,984
2018	155,000	162,500	317,500
2019	160,000	159,350	319,350
2020	160,000	155,350	315,350
2021	165,000	150,475	315,475
2022	170,000	145,450	315,450
2023	180,000	138,400	318,400
2024	190,000	129,150	319,150
2025	195,000	119,525	314,525
2026	205,000	109,525	314,525
2027	215,000	100,100	315,100
2028	225,000	91,300	316,300
2029	235,000	82,100	317,100
2030	245,000	72,500	317,500
2031	255,000	62,500	317,500
2032	265,000	52,100	317,100
2033	275,000	41,300	316,300
2034	285,000	30,100	315,100
2035	300,000	18,400	318,400
2036	310,000	6,200	316,200
Total	**$ 4,395,000**	**$ 1,937,309**	**$ 6,332,309**