

# **TWIN CREEKS SPECIAL SERVICE DISTRICT WATER RATE AND IMPACT FEE STUDY**



**May 2013**

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## EXECUTIVE SUMMARY

### TWIN CREEKS WATER RATE AND IMPACT FEE STUDY

#### INTRODUCTION

Twin Creeks Special Service District (TCSSD) hired Bowen, Collins & Associates (BC&A) to complete a water master plan and evaluate and update its water rates and impact fees. Since the District's last impact fee and rate study, the District has experienced significant changes within its system, which has led to changes in water demand patterns and system revenue requirements. The purpose of this study is to update District water rates and impact fees based on changes in demand patterns and system revenue requirements that have occurred since the last study.

#### IMPACT FEES

Impact fees as defined in Section 11-36a-102 of the Utah Code are “a payment of money imposed upon new development activity as a condition of development approval to mitigate the impact of the new development on public infrastructure”. They are designed to recover the capital investment required to provide capacity in a public facility system to serve new users.

Following the requirements of State law, an analysis of impact fees was prepared that considered the following issues:

- **Long-term Growth Projections** – Estimates of existing system demand and projected future demands were taken from the District's 2012 Water System Master Plan prepared by Bowen Collins & Associates.
- **Cost of Existing Assets** – BC&A looked at the actual construction costs of existing components of the District's water system that qualify for reimbursement under impact fee law. The costs for these existing assets associated with the portion of capacity that will be used by future growth was included in the impact fee.
- **Cost and Allocation of New Capital Improvements** – Future growth will require the construction of some new improvements. This study identifies all of the District's projected system level projects and the percentage of each project cost attributable to future users.
- **Costs of Serving New Users** – Using the information contained above, impact fees can be calculated by dividing the cost of facilities (both existing and future) required to service new growth by the amount of growth expected.

The results of the impact fee analysis are summarized in Table ES-1.

**Table ES-1  
Allowable Water Impact Fees**

<b>Meter Size</b>	<b>Equivalent Meter Ratio<sup>1</sup></b>	<b>Current Impact Fee</b>	<b>Allowable Fee</b>
1" and smaller	1.0	\$5,887	\$6,139
1-1/2"	2.0	NA	\$12,278
2"	3.2	NA	\$19,644
3"	6.0	NA	\$36,833
4"	10.0	NA	\$61,388

<sup>1</sup> Based on AWWA equivalent capacity ratios normalized to the base meter size of 1-inch.

The analysis reveals that the current impact fee charged by the District is just slightly less than what is allowable under current impact fee law. It is recommended that the impact fee charged to new users be increased to what is allowable to more fairly distribute costs between existing and future users. For standard 1-inch residential meters, this would increase the impact fee from \$5,887 to \$6,337. This is separate from any additional charges levied by the District for hookup and meter costs or for other reasonable permit and application fees.

**WATER RATE ANALYSIS**

The purpose of this portion of the report is to update District water rates based on changes in demand patterns and system revenue requirements that have occurred since the District last established rates. The rate study will calculate detailed rates for the next six years and present a longer term finance plan to achieve the District’s primary objectives of:

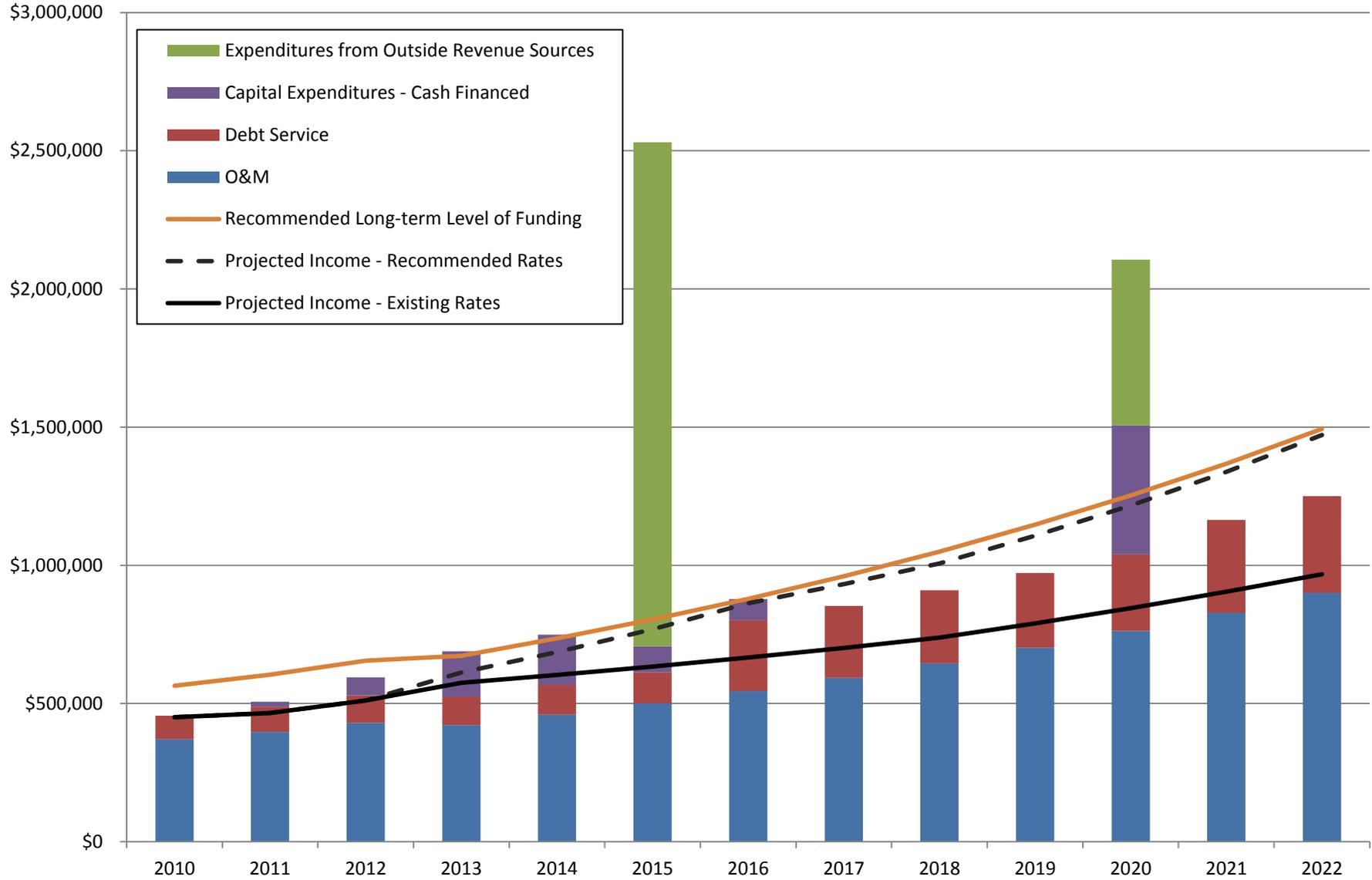
- Maintaining high quality, reliable water service at affordable prices for customers;
- Encouraging wise use of resources through water conservation;
- Maintaining stable revenue generation adequate to fund system needs; and
- Minimizing the District’s long-term costs by avoiding further debt where possible.

**10-year Budget Plan**

A budget plan has been developed for the District and is shown in Figure ES-1. The process of creating this budget plan was as follows:

1. Identify projected expenditures in terms of operations and maintenance, debt service, and capital expenditures.
2. Identify projected revenue based on existing rates
3. Identify recommended level of funding based on long-term system needs
4. Create a plan to transition from existing revenue to revenue adequate to support long-term system needs

**Figure ES-1**  
**10-Year Revenue and Expenditures - Water**



To close the gap between projected revenue from existing rates and recommended revenue for long-term system needs, it is recommended that existing rates be increased over the next several years. To minimize the impact and potential for “rate shock” on customers, it is recommended that this increase be completed gradually as shown in Table ES-2.

**Table ES-2  
Recommended Annual Rate Increase for 10-Year Budget Plan**

<b>Year</b>	<b>Percent Rate Increase</b>
2013	8.8%
2014	8.8%
2015	8.8%
2016	8.8%
2017	3.4%
2018	3.4%
2019	3.4%
2020	3.4%
2021	3.4%
2022	3.4%

**Detailed Rate Calculation**

With an overall revenue plan in place, the next step in the rate calculation process is a detailed cost-of-service rate analysis. This analysis generally follows the basic cost-of-service approach recommended by the American Water Works Association (AWWA).<sup>1</sup> The essential principle of this method is that “water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers.”<sup>2</sup> Final recommended rates based on the cost-of-service analysis are as summarized in Table ES-3. It is recommended that these rates be implemented to meet the District’s long-term revenue plan.

<sup>1</sup>American Water Works Association. *Principles of Water Rates, Fees, and Charges: Manual M1*. 2000.

<sup>2</sup>*Ibid.*, p. xix.

**Table ES-3  
Recommended Water Rates**

**Monthly Base Rate (\$/month)**

<b>Meter Size</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<i>Water – Reservation Fee</i>						
NA	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00
<i>All Other Metered Connections (inches)</i>						
1" and Smaller	\$43.48	\$49.15	\$55.07	\$61.10	\$63.22	\$65.34
1 1/2"	\$83.89	\$95.11	\$106.87	\$118.75	\$122.89	\$127.01
2"	\$132.38	\$150.27	\$169.05	\$187.92	\$194.48	\$201.01
3"	\$245.53	\$278.95	\$314.12	\$349.34	\$361.54	\$373.66

**Volume Rates (\$/kgal)**

	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Typical Overage	\$15.00	\$15.00	\$15.00	\$15.26	\$15.40	\$15.57
Modified Overage for Special Rate Schedules <sup>1</sup>	\$2.81	\$3.24	\$3.68	\$4.12	\$4.26	\$4.41

<sup>1</sup> Cost of water between 12,000 gallons and revised break point for 36,000 and 72,000 gallon customers. Above revised break point, typical overage applies.

## **SECTION 1 INTRODUCTION**

Twin Creeks Special Service District (TCSSD) hired Bowen, Collins & Associates (BC&A) to complete a water master plan and evaluate and update its water rates and impact fees. Since the District's last impact fee and rate study, the District has experienced significant changes within its system, which has led to changes in water demand patterns and system revenue requirements.

The purpose of this study is to update District water rates and impact fees based on changes in demand patterns and system revenue requirements that have occurred since the last study. The rate study will also present information on various rate structure alternatives and will recommend a rate structure to meet TCSSD objectives of rate equity and adequate revenue generation. As part of the impact fee study, Zions Bank Public Finance reviewed proposed bonding and impact fee calculations. Recommendations from Zions Bank have been included into this final report.

Implementing the recommendations contained in this report will help TCSSD keep its water system adequately funded to maintain its current infrastructure and keep pace with its capital improvements plan. The report will first examine impact fees and then discuss water rates.

## SECTION 2 IMPACT FEE ANALYSIS

Impact fees as defined in Section 11-36a-102 of the Utah Code are “a payment of money imposed upon new development activity as a condition of development approval to mitigate the impact of the new development on public infrastructure”. They are designed to recover the capital investment required to provide capacity in a public facility system to serve new users. As part of this project, the water system impact fees charged by the District have been reviewed and recalculated in accordance with the requirements of Utah law.

### SERVICE AREA AND PROJECTED GROWTH

Prior to preparing this analysis, a system master plan and impact fee facility plan were prepared for the Twin Creeks Special Service District water system. The service area for this impact fee analysis is the same as the Study Area identified in the master plan in Figure 2-1. Projected growth is documented in the master plan and summarized in Table 2-2 of the master plan. As with the master plan, Billy Bethers and Red Ledges are not included in this IFA study for the reasons described below.

- **Billy Bethers** - Billy Bethers is a small water system with its own water sources, tanks, and infrastructure that is operated by TCSSD. Because it is an independent water system with its own impact fee, Billy Bethers was not considered as part of this impact fee study.
- **Red Ledges** – While Red Ledges is part of the TCSSD water system, it has its own water sources, tanks, and infrastructure. While this system is now owned and operated by TCSSD, it was financed and paid for by the Red Ledges development. Since the infrastructure was paid for by others, TCSSD will not collect impact fees from customers in the Red Ledges development.

### IMPACT FEE ANALYSIS

An Impact Fee Facilities Plan was completed as part of the 2012 Water System Master Plan. Using the information contained in the Impact Fee Facilities Plan, an Impact Fee Analysis was prepared in accordance with Section 11-36a-303, 304, and 305 of the Utah Code. For convenience, all tables showing impact fee calculations are included at the end of this report in Appendix A (Tables A-1 through A-5). The basis of each table and a brief discussion of how it is used in the impact fee calculation is contained in the following sections:

#### **Long-term Growth Projections (Table A-1)**

Estimates of existing system capacity and projected future demands have been taken from the District’s 2012 Water System Master Plan prepared by Bowen Collins & Associates.

#### **Cost of Existing Assets (Table A-2)**

Meeting the needs of projected future development will come from two sources: excess capacity in the existing system and construction of new capacity.

To calculate the cost of excess capacity in the existing system, BC&A first looked at the cost of all existing facilities. Table A-2 lists the actual construction costs of existing components of the District's water system that qualify for reimbursement under impact fee law. These costs were obtained from the District's annual accounting report for projects through fiscal year ending 2011 (see Appendix B). This total includes only those projects paid for using District funds. Projects completed through developer contributions, grants, or money contributed by other sources have not been included in the total.

This study includes the division of the impact fee into system components such as transmission, production, storage, etc. Calculation of the impact fee requires determining both the capacity of the existing facilities and the new capacity required to serve development. This is very difficult to do on a system wide basis. A system may have adequate storage for new users, but lack production capacity. This type of information is lost when only one cost of capacity is used for the entire system. By dividing the system into components a more accurate assessment of capacity can be performed. A discussion of excess capacity for each component is included in the IFFP.

The financial analysis used in this study follows generally accepted methods for calculating impacts fees. In this study, public facility costs already incurred by the District were included in the impact fee only to the extent that new growth will be served by the previously constructed improvements. In other words, instead of using the total system cost to calculate the impact fee, only the cost of excess capacity in the system was included as part of the impact fee.

### **Cost and Allocation of New Capital Improvements (Table A-3)**

In addition to using excess capacity in the existing system, future growth will also require the construction of additional improvements. Table A-3 summarizes the impact fee facilities plan from the 2012 Water System Master Plan. This plan identifies all of the District's projected system level projects and the percentage of each project cost attributable to future users. Included in the table are inflation and bond costs for those bonds that will be used to pay for impact fee eligible improvements. Division of project costs between existing and new users is documented in the impact fee facilities plan.

Included in the table is an identification of project costs associated with growth projected to occur within the next 6 years. While all of the projects identified in the IFFP will be required within the next 6 years, most will be built with capacity that will serve growth well beyond the 6 year planning window. To account for this issue, the table separates out the cost of capacity that will actually be used within the planning window based on the 6-year growth projections.

It should be emphasized that the projects contained in this analysis are restricted to system level improvements. These are projects that serve more than a single developer that will be funded by the District through impact fees. Individual project improvements that service a single developer are not included in this analysis and will remain the responsibility of the individual developer.

### Costs of Serving New Users (Table A-4)

Using the information contained above, impact fees can be calculated by dividing the cost of facilities (both existing and future) required to service new growth by the amount of growth expected. This is done for each of the four major system components in Table A-4. In each case, the cost of serving new growth includes the estimated cost of new projects from Table A-3 along with the calculated cost of existing excess capacity available to serve new growth.

Calculation of the available capacity of system components was as follows:

- **General Assets** – The only future improvements associated with this category are future engineering and impact fee studies. As a result, it can be concluded that the physical components of the District’s general assets (land, easements, etc.) have sufficient surplus capacity under current conditions to meet the needs of all projected future growth. Therefore, the available capacity of this category is equal to the projected total ERUs at buildout.
- **Transmission Capacity** – The majority of the District’s transmission system has sufficient surplus capacity to meet the needs of all projected future growth. Similar to the General Assets, the available capacity of this category is equal to the projected total ERUs at buildout. The handful of future projects needed for redundancy purposes are allocated based on projected total ERUs at buildout for the respective pressure zone the project will serve.
- **Production** – Peak day production capacity of the existing treatment plant has been taken from the actual peak production capacity as documented in Table 3-2 of the 2012 Water Master Plan.
- **Storage** – There is an existing deficiency in the storage capacity of the District’s water system. Because of the existing deficiency, there is no surplus storage capacity in the system that can be allocated to future development. A tank will be built in the next few years to correct the storage deficiency, and provide storage for future development. Table 5-1 of the 2012 Water Master Plan documents the existing storage deficiency and Table 7-2 documents the size and cost estimate for the future tank. It should be noted that fire flow storage can be used jointly by both existing and future users. As a result, the amount of fire flow storage assigned to each user has been divided proportionally based on total demand in the system at that point in time. This results in the required volume of storage per ERU decreasing over time.

With the quantity of excess assets defined, the cost of excess assets available to new users can be calculated by multiplying the ratio of excess assets (required by new users) to total assets by the total cost of the assets as shown below.

$$\text{Cost of Excess Assets} = \frac{\text{Quantity of Excess Assets}}{\text{Total Assets}} \times \text{Cost of Total Assets}$$

In all cases, equivalent residential units (ERUs) are used in the calculations to represent an individual residential unit.

**Allowable Impact Fee (Table A-5)**

Table A-5 includes the sum of all impact fee components. The results of the impact fee analysis are also summarized in Table 2-1 below. The analysis reveals that the current impact fee charged by the District is just slightly less than what is allowable under current impact fee law. It is recommended that the impact fee charged to new users be increased to what is allowable to more fairly distribute costs between existing and future users. For standard 1-inch residential meters, this would increase the impact fee from \$5,887 to \$6,337. This is separate from any additional charges levied by the District for hookup and meter costs or for other reasonable permit and application fees.

**Table 2-1  
Allowable Water Impact Fees**

<b>Meter Size</b>	<b>Equivalent Meter Ratio<sup>1</sup></b>	<b>Current Impact Fee</b>	<b>Allowable Fee</b>
1" and smaller	1.0	\$5,887	\$6,139
1-1/2"	2.0	NA	\$12,278
2"	3.2	NA	\$19,644
3"	6.0	NA	\$36,833
4"	10.0	NA	\$61,388

<sup>1</sup> Based on AWWA equivalent capacity ratios normalized to the base meter size of 1-inch.

**Bond Proceeds**

It will be noted that Table A-5 includes a line for adding a debt service credit. A debt service credit can be used relative to past or future debt:

- **Historic Debt** – One purpose of a debt service credit can be to pay back new users for the portion of their monthly water bill that is used for debt service on past bonds issued to pay for projects that include capacity for the new users. When this occurs, the new user is essentially paying twice for the same project, once in impact fees and again in monthly use charges. While TCSSD does have some remaining debt associated with its existing infrastructure, most components of the system have capacity to serve extensive future growth. Since the debt service is associated with capacity beyond what will be used during the next 6-years, no double payment for capacity will occur in the implementation of the impact fees. As a result, no credit has been included for historic debt service.
- **Future Debt** – Because capacity must often be built ahead of growth, impact fee reserves and cash funding are often not available for projects needed for the future. As a result, the District will likely need to issue debt to fund some large capital projects. It is important to note that it is anticipated the impact fees will fund the eligible portions of the proposed debt. However, it is required to back the bonds with rates. Rates will only be used to pay the bonds in situations where growth does not occur as projected and there are insufficient impact fee revenues. In these circumstances, the rates will act as a loan to the impact fee fund. As a result, no credit has been included for future debt service.

## NOTICE OF PREPARATION OF AN IMPACT FEE ANALYSIS

Prior to imposing a new impact fee, Part 5 of Section 11-36a of the Utah Code requires that an entity must notify the public of the intent to prepare both an Impact Fee Facilities Plan and an Impact Fee Analysis. A public notice, meeting the requirements of the law, was posted in January of 2013 (a copy of the notice is attached in Appendix C).

## IMPACT FEE CERTIFICATION

This analysis has been prepared based on information provided by TCSSD and the projections regarding future spending as contained in the 2012 Water System Master Plan. Based on the data provided and assuming TCSSD follows the plan outlined in the master plan, BC&A certifies that, to the best of our knowledge and in accordance with Section 11-36a-306, this impact fee analysis:

1. Includes only the costs for qualifying public facilities that are:
  - a. allowed under the Impact Fees Act; and
  - b. actually incurred; or
  - c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. does not include:
  - a. costs for operation or maintenance of public facilities;
  - b. costs for qualifying public facilities that will raise the level of service for the facilities through impact fees, above the level of service that is supported by existing residents;
  - c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement;
3. offsets costs with grants or other alternate sources of payment; and
4. complies in each and every other relevant respect with the Impact Fees Act.

## IMPACT FEE ADOPTION AND ENACTMENT

With the completion of this analysis, TCSSD is now potentially ready to move forward with adoption and enactment of an impact fee ordinance. Utah law provides a detailed procedure for this process. Major components of this process are as follows:

1. Hold a public hearing to hear public comment on the impact fee facilities plan in accordance with Section 11-36a-502 and 17B-1-111. Post notice at least 14 days in advance of the hearing and in accordance with Section 17B-1-111.

2. Pending results of the hearing, adopt the impact fee facilities plan.
3. Draft an impact fee enactment in accordance with the requirements of Section 11-36a-402.
4. Hold a public hearing to hear public comment on the impact fee enactment in accordance with Section 11-36a-504 and 17B-1-111. Post notice at least 14 days in advance and in accordance with Section 17B-1-111.
5. Pending results of the hearing, approve the impact fee enactment.
6. The actual impact fee enactment may not take effect until at least 90 days after it is approved.

## SECTION 3 WATER RATE ANALYSIS

### INTRODUCTION

The purpose of this chapter is to update District water rates based on changes in demand patterns and system revenue requirements that have occurred since the District last established rates. The rate study will calculate detailed rates for the next six years and present a longer term finance plan to achieve the District's primary objectives of:

- Maintaining high quality, reliable water service at affordable prices for customers;
- Encouraging wise use of resources through water conservation;
- Maintaining stable revenue generation adequate to fund system needs; and
- Minimizing the District's long-term costs by avoiding further debt where possible.

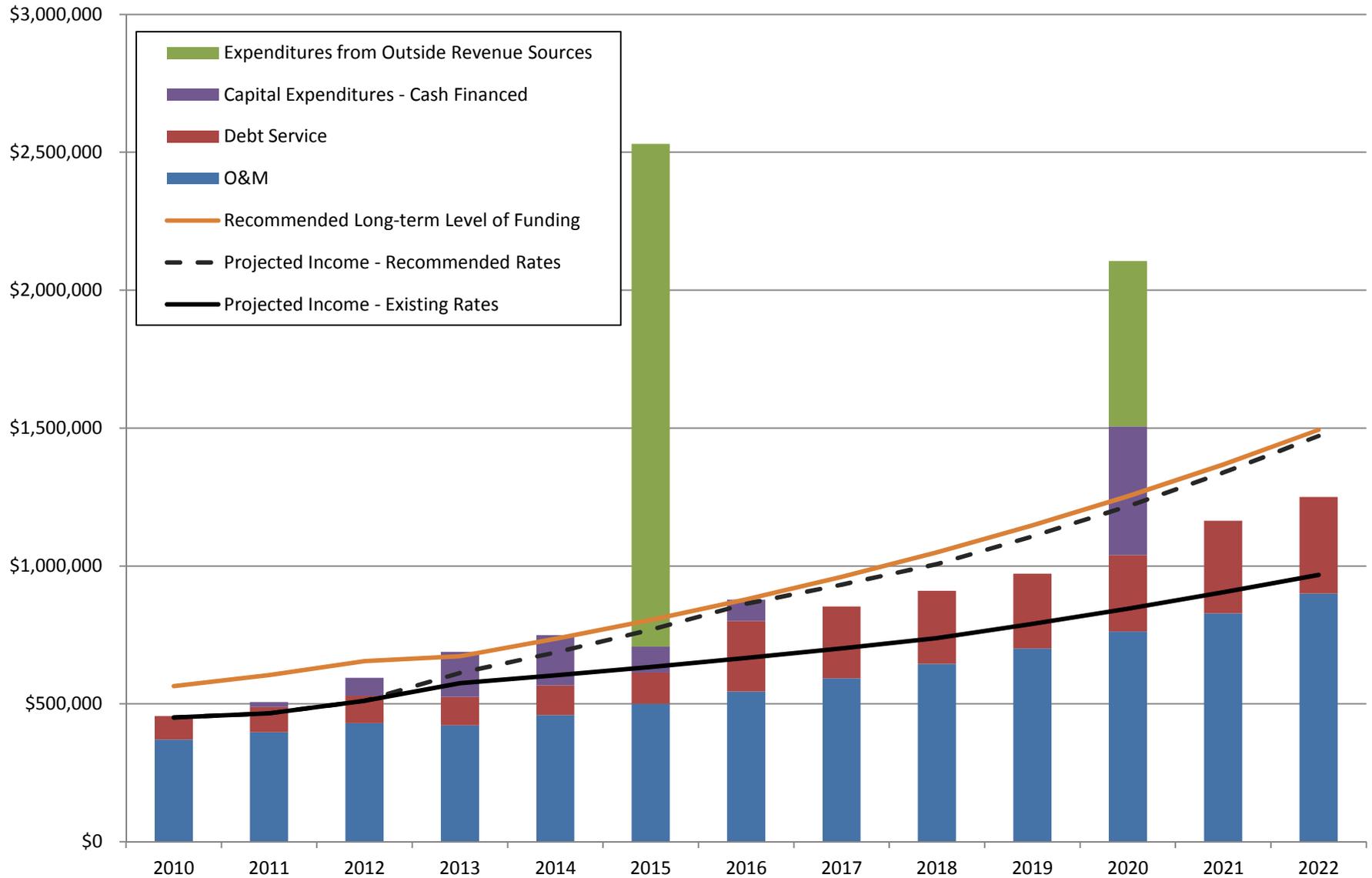
Implementing the recommendations contained in this report will help TCSSD keep its water and sewer systems adequately funded to maintain its current infrastructure and keep pace with its currently approved capital improvements plans.

### PROJECTED REVENUE NEEDS

Before calculating detailed rates for individual customer classes, it is important to consider the overall plan for meeting the future revenue needs of the District. The first step in this process is to project future expenditures. Historic and projected expenditures for the District from 2010 through 2022 are shown in Figure 3-1. Future expenditures can be grouped into three categories:

- **Operation and Maintenance Expenditures** – These are the annual costs of running the system. They include items such as salary and benefit costs for District staff, equipment and supplies, power costs, and all other costs associated with doing business throughout the year. Operation and maintenance (O&M) costs are relatively constant from year to year and tend to follow the rate of inflation. O&M costs for the District are slightly unique in that no separate account is kept for some expenditures to distinguish between water and sewer. Thus, where combined expenditures exist, costs have been assigned 80 percent to water and 20 percent to sewer based estimates from District personnel.
- **Debt Service Expenditures** – These are the costs paid toward bonds taken out by the District in previous years. These costs are easily predictable because they are tied to set payment schedules for each bond.
- **Capital Improvement Expenditures** – These are costs for constructing new facilities within the District. This can include completely new facilities or replacement of existing facilities. Capital improvement expenditures are usually the most volatile of expenditure categories. Because O&M and debt service costs are basically fixed, budgets are usually balanced by increasing or decreasing capital improvement expenditures as necessary. For this report, capital improvement expenditures have been based on the capital facilities plan contained in the District's water system master plan.

**Figure 3-1**  
**10-Year Revenue and Expenditures - Water**



## 10-YEAR BUDGET PLAN

With the expected expenditures outlined above, it is possible to prepare a future budget plan. A budget plan has been developed and is shown on top of projected expenditures in Figure 3-1. The process of creating this budget plan was as follows:

1. **Identify projected revenue based on existing water and sewer rates** –Using the District’s existing water rates, BC&A calculated the revenue the District could expect to receive over the next 10 years. These projections include consideration of future system growth. As can be seen in the figure, projected revenue based on existing rates falls short of projected expenditures.
2. **Identify recommended level of funding based on long-term system needs** –As with most things, each component of a water and sewer system has a finite service life. As such, it is necessary to continually budget money for the rehabilitation or replacement of these system components. If adequate funds are not set aside for regular investment into the system, the system will fall into disrepair and be incapable of providing the level of service customers in the District expect. To maintain the water system in good operating condition, it is recommended that the District’s annual investment into the system (including debt service costs and capital improvements) be approximately equal to the replacement value of the system divided by its estimated service life.

The estimated replacement value of the District’s water system is \$20.1 million. This estimate includes the value of District pipelines, pump stations, treatment plant, and storage reservoirs. The service life for water facilities can vary greatly depending on the type of facility it is and the conditions in which it serves. Some facilities such as the mechanical equipment at the treatment plant may last 10 years or less. Conversely, pump stations may last 25 years and pipelines up to 70 years. For the purposes of this analysis, it has been estimated that the average life of water facilities in the District system (weighted by facility value) is 50 to 60 years. This would suggest the District should invest between \$335,000 and \$400,000 dollars per year into its water system. However, because the system is relatively new, and because the distribution piping has capacity to meet demands through the year 2060, increasing the annual budget to \$335,000 or above may be higher than necessary and would increase the rates in TCSSD to an undesirable level. Based on these factors (and the capital improvements budget identified in the system master plan), we would recommend that the District fund the capital portion of its budget starting at \$225,000 per year and then increase this amount as the system grows.

If the recommended system investment budget identified above is added to the District’s projected O&M costs, the total represents an estimate of recommended long-term level of funding based on system needs. This projected funding level is shown in Figure 3-1. As shown in the figure, the District’s historic level of investment in the system falls a little short of the long-term recommendations. This gap will become larger and larger in future years unless increases to existing rates are made.

3. **Create a plan to transition from existing revenue to revenue adequate to support long-term system needs** – To close the gap between projected revenue from existing rates and recommended revenue for long-term system needs, it is recommended that existing rates be increased over the next several years. To minimize the impact and

potential for “rate shock” on customers, it is recommended that this increase be completed gradually over several years as shown in Figure 3-1. To generate the revenue shown in the budget plan in the figures, annual increases to existing rates will need to be as shown in Table 3-1.

**Table 3-1**  
**Recommended Annual Rate Increase for 10-Year Budget Plan**

<b>Year</b>	<b>Percent Rate Increase</b>
2013	8.8%
2014	8.8%
2015	8.8%
2016	8.8%
2017	3.4%
2018	3.4%
2019	3.4%
2020	3.4%
2021	3.4%
2022	3.4%

These recommended rate increases include some significant increases over the next four years to get rates closer to the recommended long term level of funding. These increases are also necessary to keep the District’s debt service coverage at acceptable levels for future bonding. After this initial jump, increases in subsequent years can be more modest. The recommended annual increases of 3.4 percent are just slightly above the projected rate of inflation.

4. **Modify capital improvement expenditures to fit within the identified budget** – As noted previously, there is not much change that can be made to O&M or debt service expenditures. As a result, any modifications required to meet the recommended budget plan will need to come through capital improvement expenditures. The District has prepared capital improvement plans for the water system based on the results of master planning efforts and knowledge of District staff. These plans were used as a starting point to project future capital improvement expenditures in the District. Projects were then moved forward or back to fit within the available budget plan. The capital expenditures shown in Figure 3-1 represent the level of expenditures that can be supported by the budget plan. Included in the figures is a distinction between those projects that will be cash financed and those that will be financed from other sources (bonds, loans from State revolving construction funds, etc.). Per District direction, pay-as-you go financing has been used for all but the larger projects associated with a new storage reservoir and treatment plan expansion. A detailed outline of available capital expenditures in each year is contained in the rate models described in subsequent chapters of this report.

## DETAILED RATE CALCULATION

With an overall revenue plan in place, the next step in the rate calculation process is a detailed cost-of-service rate analysis. This analysis includes four major tasks:

1. **Projecting Water Use:** Future water sales were estimated by examining current use patterns and by projecting water system growth for the next several years.
2. **Calculating Revenue Requirements:** Total revenue requirements for the system were projected for the next several years based on the budget plan outlined earlier in this chapter. Non-rate revenue (including impact fee revenue) was deducted from the total to give the net revenue requirement to be recovered from rate payers.
3. **Cost Allocation:** This analysis generally follows the basic cost-of-service approach recommended by the American Water Works Association (AWWA).<sup>1</sup> The essential principle of this method is that “water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers.”<sup>2</sup> To accomplish this goal, the system revenue requirements were allocated to four customer service characteristics: average day demand, peak day demand, billing & collection, and meters & services.
4. **Rate Design:** Rates were calculated to recover the allocated cost of service for each customer service characteristic based on a given rate structure. The report discusses and develops rates for three basic rate structures (uniform rates, seasonal rates, and increasing block rates).

The remainder of this report details the results of each of these four major tasks. Detailed rate tables from the model used to develop the rate recommendations are located in Appendix D.

## KEY ASSUMPTIONS

The results presented in this report are based on the following assumptions:

1. TCSSD will continue to be a self-funding, enterprise-type fund.
2. Customers will continue to be billed using the District’s existing customer classes:
  - Rate 101: Water – Reservation Fee
  - Rate 102: Metered Connection
  - Rate 103: Metered Connection – 36,000 gallon base rate
  - Rate 104: Metered Connection – 72,000 gallon base rate
  - Rate 302: Billy Bethers
3. Billy Bethers is a small water system with its own water sources, tanks, and infrastructure that is operated by TCSSD. Because it is an independent water system with its own water rate, Billy Bethers was not considered as part of this rate study. The District will

<sup>1</sup>American Water Works Association. *Principles of Water Rates, Fees, and Charges: Manual M1*. 2000.

<sup>2</sup>*Ibid.*, p. xix.

need to consider these rates (Rate 302) separately if any changes are desired. For the purpose of this rate study, it was assumed that rate for the Billy Bethers system will remain unchanged during the planning period.

4. Red Ledges customers are included in Rate 102. The costs of operating and maintaining the Red Ledges water system are included in this rate study. The conclusions contained in this report apply to customers both in the main service area of the District and in the Red Ledges area.
5. The study follows the basic recommended methodologies of AWWA in developing cost-of-service water rate options for consideration by TCSSD. Only the “cash basis” approach has been used to allocate costs to users. The “cash basis” study methodology is summarized later in this report.
6. The State water conservation goal is to reduce per capita water usage 25 percent by the year 2025, measured from the year 2000. Because there is no reliable data for the TCSSD area in the year 2000, and because the per-capita water use is already lower than the State standard (see 2012 TCSSD Water Master Plan), no additional conservation has been incorporated in the rate study. We would recommend that TCSSD continue to monitor their water use, and if water is being conserved, adjust rates as needed.
7. This rate study is based on projections of future water demands and projected system operation, maintenance, and improvement costs. These projections are based on current economic conditions and weather patterns over the last several years. Because conditions may change over time, it is recommended that the District review the rates annually and adjust them if needed to provide a revenue stream that will adequately fund operation and maintenance costs as well as needed capital improvements. It is also recommended that a comprehensive review and updating of water rates be undertaken in three to five years so that the basic analytical foundations of this study can be re-evaluated.

## PROJECTING WATER USE

### Historical Water Use

TCSSD currently bills almost 892 accounts. A brief description of the different customer classes served by the District is found below:

- **Water – Reservation Fee** – This class of customers is for developers who wish to hold water rights for future development. A customer who consistently pays the reservation fee will have a water right available for their future development.
- **Metered Connection** – This class represents the majority of customers in TCSSD. It includes all metered connections in the TCSSD system except as noted below. This customer class currently accounts for 59 percent of the accounts and 98 percent of the total water use in the system.
- **Metered Connection – 36,000 and 72,000 gallon base rate** – This customer class represents a small number of connections that have a special agreement with the TCSSD. In return for providing additional water shares at the time of their development, the District provides a discounted rate for water above the regular 12,000 gallons/month

allowance. As indicated by their names, one class of customer receives the discounted rate up to 36,000 gallons/month, while the other receives up to 72,000 gallons/month.

The number of accounts in each customer class along with their historic water use in 2011 and 2012 is summarized in Table 3-2.

**Table 3-2  
Account and Water Use Summary**

<b>Customer Class</b>	<b>2011 Water Use (kgal)</b>	<b>Number of Accounts in 2011</b>	<b>2012 Water Use (kgal)</b>	<b>Number of Accounts in 2012</b>	<b>Average Use per Account (kgal/month)</b>
Water – Reservation Fee	0	319	0	357	0
Metered Connection	36,641	501	37,376	528	6.0
Metered Connection – 36,000 gallon base rate	544	2	657	2	20.1
Metered Connection – 72,000 gallon base rate	967	5	1,088	5	15.9
<b>Total</b>	<b>38,152</b>	<b>827</b>	<b>39,121</b>	<b>892</b>	<b>3.7</b>

### Projected Accounts

The District has historically seen a wide range of growth rates depending on economic conditions in the area. A brief description of expected growth for each customer class is found below:

- **Water – Reservation Fee** – While Reservation Fees have been an important part of how the District has historically secured water for future growth, District personnel indicate that this approach will not likely be used in the future. As a result, it is expected that the number of customers paying reservation fees will slowly decrease as development is completed and these customers are converted into metered connections. For the purposes of this study, it was assumed that 80 percent of new metered connections during the planning window (outside of Red Ledges) will have been paying reservation fees. Thus, the number of accounts in this customer class will decrease an amount equal to the number of new metered customers (outside Red Ledges) times 80 percent.
- **Metered Connection** – Current master plan projections available from the District project the growth of metered connections to average 7.05 percent over the next 6 years. Since the District does not anticipate entering into any other special rate agreements (see below), all of this growth will occur in the metered connection customer class (Rate 102).
- **Metered Connection – 36,000 and 72,000 gallon base rate** – The District does not anticipate entering into any other special rate agreements like the ones represented by these customer classes. As a result, the number of accounts in these classes is not expected to change during the planning period.

Projected growth rates and number of accounts by customer type are summarized in Table 3-3.

**Table 3-3  
Projected Growth in System Accounts**

Customer Class	2013	2014	2015	2016	2017	2018
	7.05%	7.05%	7.05%	7.05%	7.05%	7.05%
Water – Reservation Fee	345	332	318	303	288	271
Metered Connection	566	606	649	695	745	798
Metered Connection – 36,000 gallon base rate	2	2	2	2	2	2
Metered Connection – 72,000 gallon base rate	5	5	5	5	5	5
<b>Total</b>	<b>918</b>	<b>945</b>	<b>974</b>	<b>1,006</b>	<b>1,040</b>	<b>1,076</b>

**Projected Water Use**

Future water demands were projected by multiplying the average use per account in 2011 from Table 3-1 by the projected number of accounts in Table 3-2. Using this methodology, the projected growth in total water sales are shown in Table 3-4.

**Table 3-4  
Projected Growth in Water Use**

Customer Class	Average Use/Acct.	Amount (kgal)					
		2013	2014	2015	2016	2017	2018
Water – Reservation Fee	0	0	0	0	0	0	0
Metered Connection	72.0	40,709	43,613	46,721	50,049	53,611	57,424
Metered Connection – 36,000 gallon base rate	240.9	482	482	482	482	482	482
Metered Connection – 72,000 gallon base rate	190.3	952	952	952	952	952	952
<b>Total</b>	<b>-</b>	<b>42,142</b>	<b>45,046</b>	<b>48,155</b>	<b>51,482</b>	<b>55,044</b>	<b>58,857</b>

**Peaking Characteristics**

An important part of the cost-of-service methodology is identifying costs associated with peak demands. The peak day peaking factor is the ratio of the peak day rate of flow divided by the average day rate of flow. The system-wide peak day peaking factor is 2.0. This is based on the peaking factor reported in the TCSSD Water Master Plan. This peaking factor will be used to project peak day demands for each customer class so that the cost of serving those peak demands can be estimated.

**Demands by Water Use Block**

TCSSD currently uses an increasing block rate for Metered Connection customers. Table 3-5 summarizes the District’s current block structure and the historic use by block for residential customers. This will be used to calculate how to distribute costs between the various blocks for future rate structures.

**Table 3-5  
Block Water Use by Residential Customers**

	Upper Block Limits (kgal)				2012 Total Use by Block			
	Block 1	Block 2	Block 3	Block 4	Block 1	Block 2	Block 3	Block 4
	12 kgal	36 kgal	72 kgal	+				
Water – Reservation Fee	0	0	0	0	100.0%	0.0%	0.0%	0.0%
Metered Connection	33,517	3,859	-	-	89.7%	10.3%	0.0%	0.0%
Metered Connection – 36,000 gallon base rate	441	200	17	-	67.1%	30.4%	2.5%	0.0%
Metered Connection – 72,000 gallon base rate	718	183	165	22	66.0%	16.8%	15.2%	2.0%
	<b>Percent Total Use</b>				<b>88.6%</b>	<b>10.8%</b>	<b>0.5%</b>	<b>0.1%</b>

**CALCULATING REVENUE REQUIREMENTS**

There are two methods for determining a water utility’s revenue requirements. One is called the Cash Basis of revenue requirements. The other method is called the Utility Basis of revenue requirements. The revenue requirements for each approach are summarized below.

**Cash Basis**

Operation and Maintenance Costs  
 Plus: Debt Service  
 Cash-Financed Capital Outlays  
 Taxes (if applicable)  
Net Additions to Reserves  
 Total Requirements  
 Less: Non-Rate Revenues  
 Equals: Net Requirements from Rates

**Utility Basis**

Operation and Maintenance Cost  
 Plus: Depreciation  
 Return on Investment  
 Taxes (if applicable)  
 \_\_\_\_\_  
 Total Requirements  
 Less: Non-Rate Revenues  
 Equals: Net Requirements from Rates

The cash basis of revenue requirements is based on the actual cash expenditures of the system. Its goal is to make sure revenues match the cash needs of the system. In public utilities, this method generally matches the budgetary expenditures for the period. It has the additional advantage of being more understandable to most ratepayers and more directly meets any debt service coverage requirements that the system might need to comply with.

The utility basis approach simulates the financial requirements of private sector companies. It ensures that revenue requirements reflect the depreciation incurred by the system, as well as a return on the investment for system owners. In the municipal utility setting, the utility basis is most often used when there is significant utility service to customers outside the jurisdictional boundaries of the system owners, such as outside-District customers. It allows the system owners (i.e., inside-District customers) to earn a return from the investments to serve the outside-District customers. Because the District does not have any outside-District users, rates for this study were developed under the cash basis only.

**Impact Fee Revenue**

Table 3-6 summarizes projected Impact Fee Revenue over the next 6 years. The projected annual revenue from impact fees is based on the projected number of new accounts as discussed previously. The projected impact fee revenue for the next six years is estimated to increase from \$92,000 a year to \$130,000 a year. It is important to note that development in Red Ledges will not be charged an impact fee from TCSSD (see Section 2 – IFA). For this analysis, it has been assumed that the District’s current per ERU impact fee rates will be constant over throughout the planning period. If the District updates its impact fees, the rates calculated in this report will need to be adjusted accordingly.

**Table 3-6  
Projected Impact Fee Revenue**

<b>Year</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>Annual Growth Rate</b>	7.05%	7.05%	7.05%	7.05%	7.05%	7.05%
<b>Projected Impact Fee Revenue</b>	\$92,567	\$99,089	\$106,072	\$113,546	\$121,546	\$130,111

**Non-Rate Revenue**

The projected non-rate revenue for the District is summarized in Table 3-7. This revenue is the net income from activities not associated with water sales or impact fees. It may include service charges, net interest income, fees, and tax revenue. For accounting purposes the District separates this income into operating and non-operating revenue.

**Table 3-7  
Projected Non-Rate Revenue**

<b>Item</b>	<b>Projected 2013</b>	<b>Projected 2014</b>	<b>Projected 2015</b>	<b>Projected 2016</b>	<b>Projected 2017</b>	<b>Projected 2018</b>
<i>Operating</i>						
Penalty Fees	\$22,080	\$23,636	\$25,301	\$27,084	\$28,992	\$31,035
Interest Revenue	\$17,893	\$17,893	\$17,893	\$17,893	\$17,893	\$17,893
Other	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total Operating Non-Rate Revenue</b>	<b>\$39,973</b>	<b>\$41,529</b>	<b>\$43,194</b>	<b>\$44,977</b>	<b>\$46,886</b>	<b>\$48,929</b>
<i>Non-Operating</i>						
Impact Fees	\$92,567	\$99,089	\$106,072	\$113,546	\$121,546	\$130,111
Connection Fees	\$10,168	\$11,190	\$12,314	\$13,551	\$14,912	\$16,411
Inspection Fees	\$2,773	\$3,052	\$3,358	\$3,696	\$4,067	\$4,476
Contributed Capital	\$0	\$0	\$0	\$0	\$0	\$0
Gain (Loss) on Sale of Assets	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total Non-Operating Non-Rate Revenue</b>	<b>\$105,508</b>	<b>\$113,331</b>	<b>\$121,744</b>	<b>\$130,792</b>	<b>\$140,526</b>	<b>\$150,997</b>
<b>Total Non-Rate Revenue</b>	<b>\$145,482</b>	<b>\$154,860</b>	<b>\$164,938</b>	<b>\$175,770</b>	<b>\$187,411</b>	<b>\$199,925</b>

### District Expenditures

The projected District expenditures for the planning period are summarized in Table 3-8. Included in the table are the projected total costs for the three major categories of expenditures: operations and maintenance, debt service, and capital expenditures. These categories are discussed in more detail in following sections.

**Table 3-8  
Projected Revenue Requirements**

<b>Item</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
O&M	\$421,885	\$459,459	\$500,225	\$544,486	\$592,579	\$644,875
Debt Services	\$103,360	\$107,860	\$113,180	\$255,840	\$260,740	\$265,430
Capital (Net of bond revenue)	\$87,294	\$118,220	\$155,142	\$62,716	\$78,545	\$96,811
<b>Total Expenditures</b>	<b>\$612,539</b>	<b>\$685,539</b>	<b>\$768,546</b>	<b>\$863,043</b>	<b>\$931,865</b>	<b>\$1,007,116</b>

**Operation and Maintenance Costs.** The projected operation and maintenance (O&M) costs for the District have been taken from the District's budget for 2013. A detailed list of all O&M budget categories is included as part of the rate model in Appendix D. Beyond 2013, it has been assumed that most of the O&M cost categories will increase at a rate of 6.5 percent annually. This growth rate is based on half the system growth of 7 percent plus an assumed inflation rate of

3.0 percent. The only categories that do not use this growth rate are the costs for Lake Creek irrigation water (labeled “Twin Creeks Water” in the budget schedule) and water purchase costs from JSSD. It has been assumed that Lake Creek irrigation costs will increase at 6 percent annually plus system growth to reflect the likely need for increased investment in the Lake Creek system. Water purchase costs from JSSD have been estimated based on projected demand in the Red Ledges area multiplied by \$750/acre-ft.

**Debt Service Costs.** The projected debt service costs for the District have been taken from the District’s bond payment schedule through 2018. A detailed list of all bond payments is included as part of the rate model in Appendix D. To meet projected expenditures associated with the construction of a new storage reservoir, it is expected that the District will need to issue an additional bond in 2015. Expected payments associated with this bond have been included in the rate model.

**Capital Improvement Costs.** The projected capital improvement costs for the District have been taken from the District’s 6-year capital improvement plan. A detailed list of all capital improvements is included as part of the rate model in Appendix D. It should be noted that most of the capital improvement projects in the 6-yr plan provide redundant back up for the water system. Because most of the projects are for back-up purposes, they have been postponed to be able fit the capital improvements within the available projected budget and meet the District’s goal of funding all non-growth related projects on a pay-as-you-go basis. The exception to this is the storage reservoir project as noted above.

## COST ALLOCATIONS

A key step in a cost-of-service rate analysis is the allocation of costs to customer service characteristics. The allocation approach used in this rate update reflects the basic approaches recommended by the AWWA. The cost allocation method is the Base-Extra Capacity Method, which is one of the two methods specifically recognized by AWWA. Unlike the AWWA suggested approach, this update limits the analysis of peaking costs to peak day costs. It does not include peak hour costs as a customer service characteristic. This is because the District does not have any estimates of peak hour requirements. This variation is minor and does not materially affect the outcome of the analysis or the validity of the results. AWWA specifically recognizes that utilities’ circumstances may justify changes from the AWWA methods, and this is one such variation.

### Customer Service Characteristics

Customer service characteristics are demands or other “services” that each customer receives. Specifically, the customer service characteristics considered in this rate study include:

- average demand,
- peak day demand,
- billing & collection, and
- meters & services.

The first step in allocating costs is to divide each of the District’s revenue requirements into these four categories. This has been done in the water rate model (see Tables D-4 and D-5 of Appendix D). In each case, these allocations are based on information provided by District personnel, professional engineering judgment, and knowledge of system operations. Table D-4 in Appendix D provides a division by customer service characteristic for O&M expenditures. Table D-5 in Appendix D provides the same information for capital and bonding expenditures.

To understand how this has been done, it may be useful to consider a few examples. As one example, the majority of costs for transmission and distribution pipelines are attributed to average day demand. This basically represents the cost of maintaining pipes and valves in the ground to provide water to system users. However, the size of the pipelines in the system must be larger than would be required to convey average flow, because of daily and seasonal fluctuations in system flow. Thus, a portion of the distribution budget has been allocated to peak demand to account for the increased costs of maintaining a larger system. The remaining amount has been allocated to cover the costs of meters and service lines.

In contrast to the distribution pipelines is the postage budget item. Because this budget item is associated with working with individual customers 75 percent is assigned to billing and collection, while the remaining 25 percent goes to meters and services. Each of the other revenue requirements has been divided among the customer service characteristic categories based on similar logic.

Using the percentages assigned to each budget category, the system revenue costs are distributed among the customer service characteristics. This is also shown in detail in the rate model. The total revenue requirement for each customer service characteristic is given in Table D-8 of Appendix D.

**RATE DESIGN**

Projected revenues based on existing District water rates are shown in Table 3-9.

**Table 3-9  
Projected Revenue Based on Existing Water Rates**

	2013	2014	2015	2016	2017	2018
Projected Revenue-Existing Rates	\$429,280	\$448,305	\$468,671	\$490,472	\$513,809	\$538,790
Projected Revenue Requirements	\$467,057	\$530,679	\$603,608	\$687,274	\$744,454	\$807,191
<b>Projected Difference</b>	<b>-\$37,777</b>	<b>-\$82,373</b>	<b>-\$134,937</b>	<b>-\$196,802</b>	<b>-\$230,645</b>	<b>-\$268,401</b>

As shown in the table, current water rates are inadequate to meet projected revenue requirements in any of the next six years. This table indicates an annual budget shortfall increasing from \$38,000 in 2013 to over \$268,000 by 2018. Changes will need to be made to the existing rate

structure to meet this shortfall. This section discusses potential rate options and then calculates a recommended rate structure that will meet projected revenue requirements.

## Rate Structures

Water rates are commonly divided into two components: monthly base charges and volumetric charges. The monthly base charge is the amount charged to existing users to be connected to the system, regardless of the amount of water used. This is usually assessed based on meter size and may or may not include a monthly water allowance. Volumetric charges are those charges assessed based on the amount of water used by the customer.

Volumetric charges can be assessed using one of three general rate structures: uniform rates, seasonal rates, and block rates (both increasing and decreasing).

- **Uniform Rates** –A uniform rate structure charges the same for each gallon of water regardless of the amount of water used or time of year. Uniform rate structures are among the easiest rate structures to administer and understand. Unfortunately, they do little to encourage conservation.
- **Seasonal Rates** –A seasonal rate structure charges one rate during the winter and another rate during the summer. Generally, higher rates are charged during the summer months to account for the additional costs of producing water during times of peak demand where water is used for outdoor irrigation. Unfortunately, in areas with secondary irrigation (like the District) they are less effective because there should not be a large seasonal fluctuation in demand.
- **Block Rates** –Block rates charge different amounts for each gallon of water depending on the total amount of water metered each month. This is the basic rate structure currently used by the District. For most customers, the first 12,000 gallons of water sold during a month is charged at one rate, while any water in excess of 12,000 gallons is charged at a different rate.

Block rates can increase with the amount of water sold as well as decrease. Since decreasing blocks generally discourage conservation, they will not be discussed further. In contrast, increasing block rates have the greatest potential of all rate structures for encouraging conservation. The greatest challenge with increasing block rates are that they are difficult to implement and administer fairly. Although one set of blocks could be developed to encourage conservation among family residential users, this same set of blocks would unfairly penalize a large commercial user. Thus, any use of increasing blocks must be carefully considered to make sure they are treating different customer classes fairly.

Any of the above rate structures could be used to develop reasonable, cost-based rates that could be implemented by District. They all generate the same revenues and meet the basic standards established by AWWA for equitable, cost-of-service approaches for rate development. Additionally, any combination of the rate structures could be used to develop an acceptable pricing policy for the District. Therefore, within this set of rates, a recommendation for any individual rate structure is based only on differences in objectives or concepts among the options.

The District currently has an increasing block rate structure. It includes two blocks, with all costs associated with the first block of water (up to 12,000 gallons/month) included as an allowance in the base rate. Based on the success the District has already had with their block rate structure, BC&A would recommend continuing to use this rate structure for the upcoming planning period. If the District needs to encourage more conservation in the future, it could consider implementing additional blocks beyond its existing two. The remainder of this report focuses on calculating rates based on continuing with this same structure.

**Calculated Cost-of-Service Rates**

Following the AWWA cost-of-service methodology, basic rates for the District’s increasing block rate schedule were calculated as summarized in Table 3-10. For ease of discussion, only rates for 1-inch meters are shown. Rates for additional meter sizes will be included in the final recommendations.

**Table 3-10  
Calculated Cost-of-Service Water Rates**

	2013	2014	2015	2016	2017	2018
<b>Monthly Base Rate w/ 12,000 gallon Allowance (\$/month)</b>	\$45.52	\$50.53	\$55.73	\$61.12	\$63.25	\$65.37
<b>Overage Rate (\$/kgal)</b>	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57

A few conclusions can be made based on the calculated cost of service rates:

- To meet the District’s projected revenue requirements, rates will need to be increased over the next several years.
- The District’s current overage rate of \$15.00/kgal is a little higher than the calculated cost of service. Correspondingly, the existing monthly base rate of \$38.00/month is a little lower than the cost of service. As a result, it is recommended that initial increases in water rates be more focused on monthly base rates than on overage rates.

**Recommended Rates**

The cost-of-service rates summarized above provide a good starting point for developing recommended rates for the system. Before finalizing the rates, however, it is necessary to make a few adjustments to account for some of the practical limitations in the rate making process. Items to consider in developing final rates include:

1. **Base Rate Structure** – The District’s current rates include a base rate of \$30.00/month and an \$8.00/month charge for operations and maintenance. While separating these costs may have made sense in the past, District personnel no longer remember the purpose of

keeping these costs separate. To simplify the billing process, it is recommended that these components be combined into a single base rate charge.

2. **Monthly Water Allowance** – District personnel indicate that the current allowance of 12,000 gallons/month has been generally well accepted by customers. Although higher than the average monthly use, this current allowance appears to be working well to balance the District’s need for rate stability while still encouraging wise water use. It is recommended that the allowance be maintained at its current level for the planning period, but that it be revisited in future rate studies.
3. **Overage Rates** – The cost-of-service analysis indicates that the current charge of \$15.00/kgal for overage water is a little above the cost of service. However, this is expected to change in the next few years with projected rate increases. To avoid significant disruption to the rate structure and stability, it is recommend that overage rates be held at their current levels (\$15.00/kgal) until the cost-of-service rates catch up in 2016. It should be emphasized that monthly base rates will need to be correspondingly decreased slightly below cost-of-service to offset this increase in overage rates.
4. **Larger Meters** – The District has historically needed only one rate. This is because it consisted of customers that all used the same size meter. In the future it is expected that some larger water users will connect to the system. To prepare for this eventuality, this rate study includes calculation of rates for larger meter sizes. It should be noted that larger meter sizes have been calculated based on the assumption that they will include different allowances of water in their base rate. This is necessary to maintain equity between the different meter sizes. Table 3-11 summarizes the allowance used for each meter size in the calculation of final rates.

**Table 3-11  
Recommended Water Allowance By Meter Size**

<b>Meter Size</b>	<b>Included in Base Rate</b>	<b>Overage</b>
1”	0-12,000 gallons per month	Greater than 12,000 gallons per month
1 ½”	0-24,000 gallons per month	Greater than 24,000 gallons per month
2”	0-38,000 gallons per month	Greater than 38,000 gallons per month
3”	0-72,000 gallons per month	Greater than 72,000 gallons per month
4”	0-120,000 gallons per month	Greater than 120,000 gallons per month

5. **Billy Bethers** – As noted previously, Billy Bethers was not considered as part of this rate study. For the purpose of this rate study, it was assumed that rate for the Billy Bethers system will remain unchanged during the planning period.
6. **Reservation Fee** – The reservation fee charged by the District is for holding water for future development. It is not associated with the cost of operating and maintaining the system. As a result, the cost-of-service methodology used here is not applicable to the calculation of the reservation fee. For the purpose of this rate study, it was assumed that rate for the reservation fee will remain unchanged during the planning period.
7. **36,000 and 72,000 Base Rate Connections** – While no new customers are expected in these rate classes, equitable rates must be calculated for customers that remain in these classes. To maintain the intent of the agreement associated with each of these customers,

while fairly increasing their rates proportional to that of other users, the following procedure is recommended:

- a. These users will be charged the same base rate as other users. Included in the base rate will be a 12,000 gallon allowance, the same as other users.
- b. Between 12,000 gallons and the revised break point for the customer (either 36,000 or 72,000 gallons), the customer will pay for water at a reduced rate. The rate will be equal to the cost of the base rate meter and billing costs divided by 12 (i.e. the actual cost of service for water included in the allowance).
- c. Above the revised break point, these users will pay the same overage as all other users.

When the issues outlined above are included in the calculation of water rates, final rates are as summarized in Table 3-12.

**Table 3-12  
Recommended Water Rates**

**Monthly Base Rate (\$/month)**

<b>Meter Size</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<i>Water – Reservation Fee</i>						
NA	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00
<i>All Other Metered Connections (inches)</i>						
1" and Smaller	\$43.48	\$49.15	\$55.07	\$61.10	\$63.22	\$65.34
1 1/2"	\$83.89	\$95.11	\$106.87	\$118.75	\$122.89	\$127.01
2"	\$132.38	\$150.27	\$169.05	\$187.92	\$194.48	\$201.01
3"	\$245.53	\$278.95	\$314.12	\$349.34	\$361.54	\$373.66

**Volume Rates (\$/kgal)**

	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Typical Overage	\$15.00	\$15.00	\$15.00	\$15.26	\$15.40	\$15.57
Modified Overage for Special Rate Schedules <sup>1</sup>	\$2.81	\$3.24	\$3.68	\$4.12	\$4.26	\$4.41

<sup>1</sup> Cost of water between 12,000 gallons and revised break point for 36,000 and 72,000 gallon customers. Above revised break point, typical overage applies.

## SECTION 4 RECOMMENDATIONS

**Increase Impact Fees to the Amount Allowable by Law:** It is recommended that impact fees be increased to the amount allowable by law as shown in Table 4-1. This increase will help new growth to mitigate the cost of impact on the system and will reduce the magnitude of the rate increase required to meet future revenue requirements.

**Table 4-1  
Allowable Water Impact Fees**

Meter Size	Equivalent Meter Ratio <sup>1</sup>	Current Impact Fee	Allowable Fee
1" and smaller	1.0	\$5,887	\$6,139
1-1/2"	2.0	NA	\$12,278
2"	3.2	NA	\$19,644
3"	6.0	NA	\$36,833
4"	10.0	NA	\$61,388

<sup>1</sup> Based on AWWA equivalent capacity ratios normalized to the base meter size of 1-inch.

**Adopt the Recommended Rate Increases:** It is recommended that the Twin Creeks Special Service District adopt the proposed rate increases as summarized below in Table 4-2. This equates to approximately 8.8 percent increase in sales revenue annually for the first 4 years of the planning window, and approximately 3.4 percent increase in sales revenue annually for the remainder of the planning window. Over the next several years, water use should be closely monitored.

**Table 4-2  
Recommended Water Rates for FY 2013-14 through FY 2017-18**

### Monthly Base Rate (\$/month)

Meter Size	2013	2014	2015	2016	2017	2018
<i>Water – Reservation Fee</i>						
NA	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00
<i>All Other Metered Connections (inches)</i>						
1" and Smaller	\$43.48	\$49.15	\$55.07	\$61.10	\$63.22	\$65.34
1 1/2"	\$83.89	\$95.11	\$106.87	\$118.75	\$122.89	\$127.01
2"	\$132.38	\$150.27	\$169.05	\$187.92	\$194.48	\$201.01
3"	\$245.53	\$278.95	\$314.12	\$349.34	\$361.54	\$373.66

### Volume Rates (\$/kgal)

	2013	2014	2015	2016	2017	2018
Typical Overage	\$15.00	\$15.00	\$15.00	\$15.26	\$15.40	\$15.57
Modified Overage for Special Rate Schedules <sup>1</sup>	\$2.81	\$3.24	\$3.68	\$4.12	\$4.26	\$4.41

<sup>1</sup> Cost of water between 12,000 gallons and revised break point for 36,000 and 72,000 gallon customers. Above revised break point, typical overage applies.

For comparison purposes, Table 4-3 shows the average annual water bill for TCSSD versus other public entities throughout Utah. The total bill includes both indoor and outdoor water use. For TCSSD, the future rate shown assumes the TCSSD adopts the rates recommended in this report. Except where published otherwise, the future rates for other public entities are simply based on a constant annual inflation of 3 percent. This likely underestimates future rates for most public entities, but provides a starting point for comparison. This same information is shown graphically in Figure 4-1.

**Table 4-3**  
**Average Annual Water Cost Comparison**

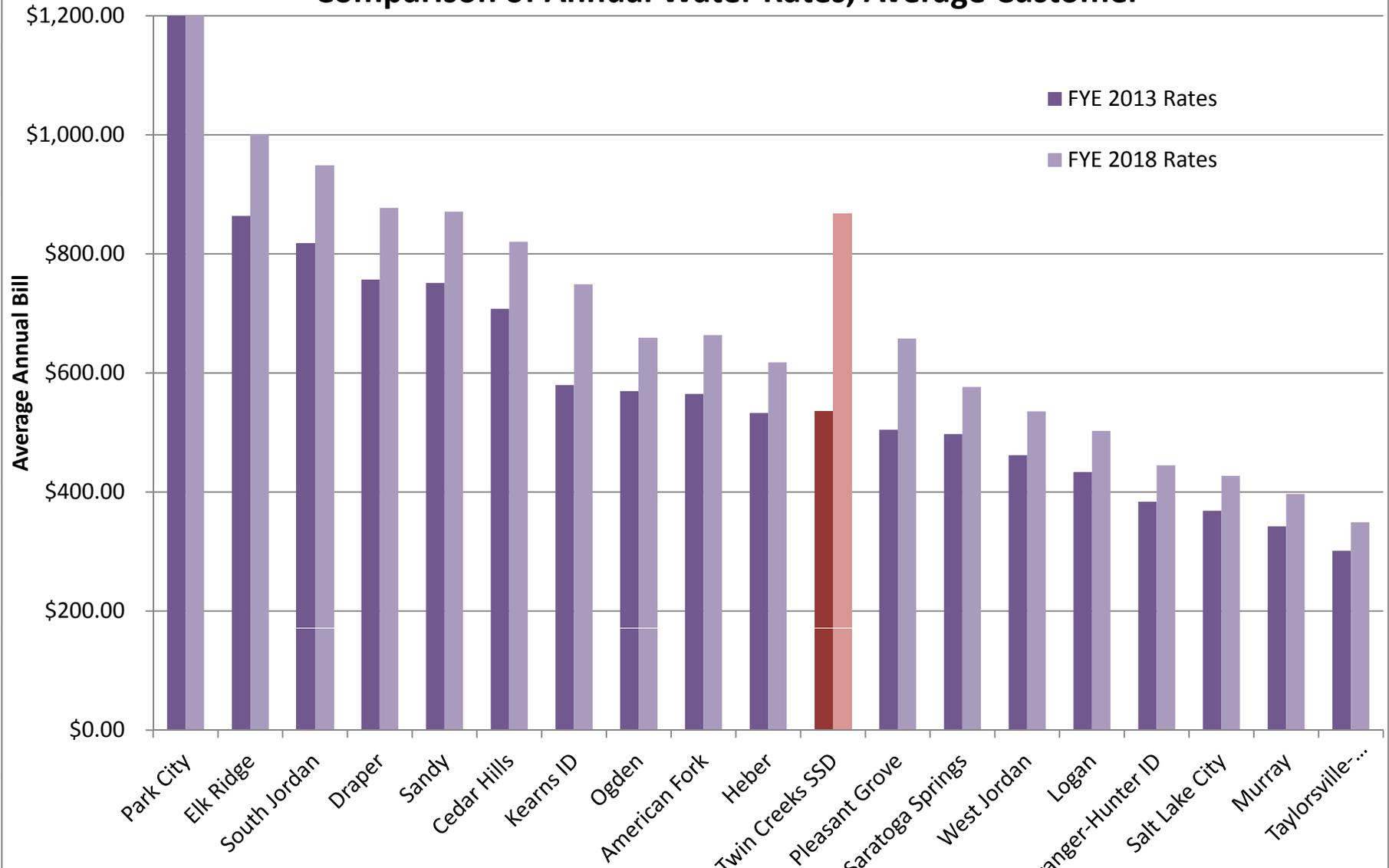
City	Cost per ERU <sup>1</sup> for FYE 2013	Cost per ERU for FYE 2018 <sup>2</sup>
Park City	\$1,410.86	\$1,635.57
Elk Ridge	\$863.85	\$1,001.44
South Jordan	\$818.07	\$948.37
Draper	\$756.95	\$877.51
Sandy	\$751.36	\$871.03
Cedar Hills	\$707.73	\$820.45
Kearns ID	\$579.66	\$748.94
Ogden	\$568.64	\$659.21
American Fork	\$564.91	\$663.79
<b>Twin Creeks SSD</b>	<b>\$536.00</b>	<b>\$867.32</b>
Heber	\$532.80	\$617.66
Pleasant Grove	\$504.76	\$657.76
Saratoga Springs	\$497.35	\$576.56
West Jordan	\$461.96	\$535.54
Logan	\$433.62	\$502.68
Granger-Hunter ID	\$383.78	\$444.90
Salt Lake City	\$368.56	\$427.26
Murray	\$342.36	\$396.89
Taylorville-Bennion ID	\$301.27	\$349.26

<sup>1</sup> Based on 3/4-inch or 1-inch meter and average residential water use.

<sup>2</sup> Unless published otherwise, assumes other provider rates are inflated at 3.0% annually

**Update This Rate Study Periodically:** After the implementation of any major change to the rate structure, we would suggest that TCSSD monitor customer responses and demand patterns. A comprehensive review of this rate study should also be performed in three to five years. The projections, assumptions, and data contained in this report may need to be revised over time. For these reasons, it is prudent to update water rates to ensure they are sufficient to meet system requirements, as well as maintain cost-of-service equity in charges to customers.

**Figure 4-1**  
**Comparison of Annual Water Rates, Average Customer**



\*Unless otherwise published, FYE 2018 rates based on annual increase to account for inflation only (3%)

**APPENDIX A**  
**IMPACT FEE TABLES**

**Table A-1**  
**Twin Creeks 2012 Impact Fee Study**  
**Long-term Growth Projections<sup>1</sup>**

<b>Item</b>	<b>Current</b>	<b>6-year Growth</b>	<b>Buildout</b>
Equivalent Meters	508	818	6,595
Average Annual Demand (acre-ft)	147	237	1,906
Average Day Demand (gpm)	91	147	1182
Peak Day Demand (gpm)	182	293	2363
Required Storage (mg)	0.76	0.84	2.3
<i>Use per ERU</i>			
Average Annual Demand (acre-ft/ERU)	0.29	0.29	0.29
Peak Day Demand (gallons/day/ERU)	258	258	258
Peak Hour Demand (gallons/day/ERU)	516	516	516
Required Storage (gallons/ERU)	1,498	1,028	349

<sup>1</sup> Long-term projections from 2012 Water Master Plan

**Table A-2**  
**Twin Creeks 2012 Impact Fee Study**  
**Cost of Existing Assets (Based on Actual Costs)**

<b>Item</b>	<b>Assets</b>
<i>General Assets</i>	
Land/Easements	\$431,596
Raw Water Supply Facilities	\$145,959
<b>Total</b>	<b>\$577,555</b>
<i>Transmission</i>	
Twin Creeks Transmission and Distribution System	\$2,348,813
<b>Total</b>	<b>\$2,348,813</b>
<i>Production/Treatment Plant</i>	
Treatment Plant	\$2,587,621
<b>Total</b>	<b>\$2,587,621</b>
<i>Storage</i>	
Reservoirs & Tanks	\$0
<b>Total</b>	<b>\$0</b>
<b>Total All Assets</b>	<b>\$5,513,989</b>

**Table A-3**  
**Twin Creeks 2012 Impact Fee Study**  
**Cost and Allocation of Capital Improvements Attributable to New Users**

Project	CIP Projects for FY 2013-2018 (2012 Dollars)	Cost Attributable to New Users (with inflation)	Applicable Bonding Costs <sup>2</sup>	Total Cost Attributable to New Users	Total Cost Attributable to 6- year Growth
<i>General Assets</i>					
Master Planning Engineering Services	\$ 47,762	\$ 35,822	\$0	\$ 35,822	\$ 35,822
<i>Transmission</i>					
D-1	\$ 26,780	\$ 17,489	\$0	\$ 17,489	\$ 891
D-2 (5700 East)	\$ 90,972	\$ 76,025	\$0	\$ 76,025	\$ 3,871
D-2 (3600 East)	\$ 90,972	\$ 78,852	\$0	\$ 78,852	\$ 4,015
D-2 (1970 East)	\$ 93,701	\$ 76,344	\$0	\$ 76,344	\$ 3,888
D-3	\$ 77,660	\$ 64,606	\$0	\$ 64,606	\$ 3,290
SP-2	\$ 136,990	\$ 117,143	\$0	\$ 117,143	\$ 5,965
<i>Production</i>					
-	-	-	-	-	-
<i>Storage</i>					
Tank	\$ 1,823,761	\$ 1,347,643	\$ 686,163	\$ 2,033,806	\$ 877,147
<b>Total</b>	<b>\$ 2,388,598</b>	<b>\$ 1,813,924</b>	<b>\$ 686,163</b>	<b>\$ 2,500,088</b>	<b>\$ 934,889</b>

1 Includes inflated cost (3% annual inflation) and applicable bonding costs. See Impact Fee Facilities plan.

2 Based on portions of bond associated with future growth assuming a 20-year bond at 4% interest and 2.5% bond issuance costs.

**Table A-4**  
**Twin Creeks 2012 Impact Fee Study**  
**Costs of Serving New Users**

<i>General Assets</i>		Basis of Calculation
Existing Equiv. Residential Unit (ERUs)	508	A (From Table A-1)
ERUs that can be Served by Existing General Assets	6,595	B (Equal to Buildout ERCs since no future projects are required)
Surplus ERUs	6,087	C=A-B
ERUs with 6-year Growth	818	D (From Table A-1)
ERUs for 6-year Growth	310	E=D-A
Cost of Existing Gen. Assets Available to 6-year Growth	\$27,148	F=Total Cost of Existing Assets * (E/B)
Costs of Improvements Attributable to 6-year Growth	\$35,822	G (From Table A-3)
Total Cost of Serving 6-year Growth	\$62,970	H=F+G
Cost per ERU	\$203.13	I=H/E

<i>Transmission</i>		Basis of Calculation
Existing Peak Day Demand (gpm)	182	A1 (From Table A-1)
Peak Day Demand of Existing in 6 years (gpm)	182	A2 (No increase or decrease)
Existing Transmission Capacity Used At Buildout (gpm)	2363	B1 (Based on existing capacity available for future use as estimated in model)
Existing Transmission Capacity Used In 6 years (gpm)	293	B2 (From Table A-1)
Surplus Transmission Capacity Used by 6-yr Growth (gpm)	111.1	C=A2-B2
Peak Day Demand with 6-yr Growth (gpm)	293.1	D (From Table A-1)
Additional Peak Day Demand of 6-yr Growth (gpm)	111.1	E=D-A2
Cost of Excess Capacity Available to 6-yr Growth	\$110,396	F=Total Cost of Existing Assets * (C/B1)
Costs of Improvements Attributable to 6-year Growth	\$21,920	G (From Table A-3)
Total Cost of Serving 6-year Growth	\$132,316	H=F+G
Cost per gpd of Transmission	\$0.83	I=H/(E*1,000,000)
Gpd of Transmission Required per ERU	516	J (From Table A-1)
Cost per ERU	\$426.83	K=I*J

**Table A-4 (cont.)**  
**Twin Creeks 2012 Impact Fee Study**  
**Costs of Serving New Users**

<i>Production/Treatment</i>		Basis of Calculation
Existing Peak Day Demand (gpm)	182.0	A1 (From Table A-1)
Peak Day Demand of Existing in 10 years (gpm)	182.0	A2 (No increase or decrease)
Existing Production Capacity (gpm)	346.0	B (Master Plan Table 3-2)
Surplus Production Capacity (gpm)	164.0	C=B-A2
Peak Day Demand with 6-yr Growth (gpm)	293.1	D (From Table A-1)
Additional Peak Day Demand of 6-yr Growth (gpm)	111.1	E=D-A2
Cost of Excess Capacity Available to 6-yr Growth	\$830,604	F=Total Cost of Existing Assets * (E/B)
Costs of Improvements Attributable to 6-year Growth	\$0	G (From Table A-3)
Total Cost of Serving 6-year Growth	\$830,604	H=F+G
Cost per gpd of Production	\$5.19	I=H/(E*1,000,000)
Gpd of Production Required per ERU	515.9	J (From Table A-1)
Cost per ERU	\$2,679.37	K=I*J

<i>Storage</i>		Basis of Calculation
Existing Storage Requirement (MG)	0.761	A1 (From Table A-1)
Storage Requirement of Existing in 6 years (MG)	0.52	A2 (Current ERUs, 2018 Storage Requirement)
Existing Storage (MG)	0.50	B (Master Plan Table 5-1)
Surplus Storage (MG)	-0.02	C=A2-B (i.e., No surplus available)
Storage Requirement with 6-yr Growth (MG)	0.84	D (From Table A-1)
Addition Storage Required By 6-yr Growth (MG)	0.32	E=D-A2
Cost of Excess Storage Available to 6-yr Growth	\$0	F=Total Cost of Existing Assets * (C/B)
Costs of Improvements Attributable to 6-yr Growth	\$877,147	G (From Table A-3)
Total Cost of Serving 6-year Growth	\$877,147	H=F+G
Cost per Gallon of Storage	\$2.75	I=H/(E*1,000,000)
Gallons of Storage Required per ERU	1028.1	J (From Table A-1)
Cost per ERU	\$2,829.51	K=I*J

**Table A-5**  
**Provo City - 2012 Water Rate & Impact Fee Study**  
**Maximum Allowable Impact Fee**

<b>Item</b>	<b>Costs per ERU</b>
General Assets	\$203
Transmission	\$427
Production	\$2,679
Storage	\$2,830
Total Impact Costs	\$6,139
Debt Service Credit	\$0
<b>Net Improvement Fee per ERU</b>	<b>\$6,139</b>

<b>Meter Size</b>	<b>Equivalent Meter Ratio</b>	<b>Maximum Allowable Fee</b>	<b>Current Impact Fee</b>
1" and Smaller	1.0	\$6,139	\$5,887
1-1/2"	2.0	\$12,278	NA
2"	3.2	\$19,644	NA
3"	6.0	\$36,833	NA
4"	10.0	\$61,388	NA

**APPENDIX B**  
**2011 BOOK ASSET DETAIL**

**Book Asset Detail 1/01/11 - 12/31/11**

FYE: 12/31/2011

Asset Id	Property Description	Date In Service	Book Cost	Book Sec 179 Exp c	Book Sal Value	Book Prior Depreciation	Book Current Depreciation	Book End Depr	Book Net Book Value	Book Method	Book Period
<b>Group: Billy Bethers Water</b>											
109	Computer equipment	11/14/05	1,417.00	0.00	0.00	1,417.00	0.00	1,417.00	0.00	S/L	5.0
110	Billy Bethers Water System	1/01/05	465,771.00	0.00	0.00	55,892.52	9,315.42	65,207.94	400,563.06	S/L	50.0
165	BILLY BETHERS WATER SYSTI	6/30/08	3,613.18	0.00	0.00	180.65	72.26	252.91	3,360.27	S/L	50.0
<b>Billy Bethers Water</b>											
			470,801.18	0.00c	0.00	57,490.17	9,387.68	66,877.85	403,923.33		
<b>Group: Bond Issuance Costs</b>											
34	1999 Sewer Revenue Bond	8/12/99	17,997.16	0.00	0.00	17,997.16	0.00	17,997.16	0.00	Amort	10.0
35	Water Sewer Assessment Bond	4/26/99	24,423.16	0.00	0.00	24,423.16	0.00	24,423.16	0.00	Amort	10.0
95	Water Rev. Bond 2004A	5/21/04	10,648.20	0.00	0.00	2,366.27	354.94	2,721.21	7,926.99	Amort	30.0
96	2004-1 SID Sewer Assessment Bon-	10/25/04	21,951.85	0.00	0.00	6,859.94	1,097.59	7,957.53	13,994.32	Amort	20.0
163	RED LEDGES BAN ISSUANCE C	7/15/08	320,500.00	0.00	0.00	320,500.00	0.00	320,500.00	0.00	Amort	2.0
195	RED LEDGES SAB 2010 COI	7/16/10	182,454.00	0.00	0.00	3,801.13	9,122.70	12,923.83	169,530.17	Amort	20.0
<b>Bond Issuance Costs</b>											
			577,974.37	0.00c	0.00	375,947.66	10,575.23	386,522.89	191,451.48		
<b>Group: Easements</b>											
6	Easements	6/01/98	95,575.00	0.00	0.00	0.00	0.00	0.00	95,575.00	Land	0.0
51	Easements	6/15/01	41,510.00	0.00	0.00	0.00	0.00	0.00	41,510.00	Land	0.0
94	Easement - Jeffrey Kummer	5/12/04	4,000.00	0.00	0.00	0.00	0.00	0.00	4,000.00	Land	0.0
136	HOLMES EASEMENT	8/19/08	58,000.00	0.00	0.00	0.00	0.00	0.00	58,000.00	Land	0.0
<b>Easements</b>											
			199,085.00	0.00c	0.00	0.00	0.00	0.00	199,085.00		
<b>Group: Equipment</b>											
5	Equipment	6/01/98	2,232.39	0.00	0.00	2,232.39	0.00	2,232.39	0.00	S/L	10.0
9	Confined Space Entry Kit	10/30/98	2,197.30	0.00	0.00	2,197.30	0.00	2,197.30	0.00	S/L	10.0
10	Backhoe	10/29/98	53,670.00	0.00	0.00	53,670.00	0.00	53,670.00	0.00	S/L	5.0
15	Cable Locator	5/07/99	885.00	0.00	0.00	885.00	0.00	885.00	0.00	S/L	10.0
16	Mobile Meter Reading Package	3/31/99	5,026.67	0.00	0.00	5,026.67	0.00	5,026.67	0.00	S/L	10.0
21	Mobile Compressor	5/20/99	848.30	0.00	0.00	848.30	0.00	848.30	0.00	S/L	10.0
22	Trash Pump	4/26/99	2,299.65	0.00	0.00	2,299.65	0.00	2,299.65	0.00	S/L	10.0
23	Service Truck Bed & Crane	1/01/99	21,343.00	0.00	0.00	21,343.00	0.00	21,343.00	0.00	S/L	6.0
25	Welder	2/10/99	2,912.67	0.00	0.00	2,912.67	0.00	2,912.67	0.00	S/L	10.0
26	File Cabinets	6/02/99	650.00	0.00	0.00	650.00	0.00	650.00	0.00	S/L	10.0
32	24" Super Ripcord	5/02/99	1,292.10	0.00	0.00	1,292.10	0.00	1,292.10	0.00	S/L	10.0
33	PH Level Tester	5/02/99	1,696.70	0.00	0.00	1,696.70	0.00	1,696.70	0.00	S/L	10.0
36	Flags & Poles	11/06/00	2,004.63	0.00	0.00	2,004.63	0.00	2,004.63	0.00	S/L	10.0
<b>Equipment</b>											
			97,058.41	0.00c	0.00	97,058.41	0.00	97,058.41	0.00		
<b>Group: Land</b>											
7	Land	1/01/97	47,735.00	0.00	0.00	0.00	0.00	0.00	47,735.00	Land	0.0
76	Land - Billy Bethers Tank Site	5/20/04	20,206.00	0.00	0.00	0.00	0.00	0.00	20,206.00	Land	0.0
135	MCGUIRE POND	1/31/08	245,500.00	0.00	0.00	0.00	0.00	0.00	245,500.00	Land	0.0
166	JONES RESERVOIR	10/28/08	104,000.00	0.00	0.00	0.00	0.00	0.00	104,000.00	Land	0.0

Asset Id	Property Description	Date In Service	Book Cost	Book Sec 179 Exp c	Book Sal Value	Book Prior Depreciation	Book Current Depreciation	Book End Depr	Book Net Value	Book Method	Book Period
<b>Group: Land (continued)</b>											
<b>Land</b>											
105	Orion Water Meter System	9/30/05	20,905.60	0.00	0.00	940.75	0.00	940.75	19,964.85	Memo	50.0
	<b>Orion System</b>		20,905.60	0.00c	0.00	940.75	0.00	940.75	19,964.85		
<b>Group: Red Ledges Infrastructure</b>											
142	20 DIP WATER LINE	12/31/08	1,288,181.91	0.00	0.00	0.00	0.00	0.00	1,288,181.91	Memo	0.0
144	COYOTE LANE	12/31/08	75,404.13	0.00	0.00	0.00	0.00	0.00	75,404.13	Memo	0.0
145	COYOTE LANE PUMP STATION	12/31/08	13,869.48	0.00	0.00	0.00	0.00	0.00	13,869.48	Memo	0.0
146	LAKE CREEK IRRIGATION	9/01/08	658,943.98	0.00	0.00	30,750.72	13,178.88	43,929.60	615,014.38	S/L	50.0
147	LAKE CREEK ROAD WATER LI	9/01/08	1,137,395.07	0.00	0.00	53,078.43	22,747.90	75,826.33	1,061,568.74	S/L	50.0
148	LIFT STATION TO NORTH PROI	12/31/08	68,549.98	0.00	0.00	0.00	0.00	0.00	68,549.98	Memo	0.0
149	OFF-SITE UTILITY CORRIDOR	12/31/08	307,378.06	0.00	0.00	0.00	0.00	0.00	307,378.06	Memo	0.0
150	ON-SITE SEWER SYSTEM	9/01/08	3,400,470.10	0.00	0.00	158,688.60	68,009.40	226,698.00	3,173,772.10	S/L	50.0
151	ON-SITE WATER SYSTEM	9/01/08	2,701,810.50	0.00	0.00	126,084.49	54,036.21	180,120.70	2,521,689.80	S/L	50.0
152	RED LEDGES TANK	12/31/08	1,152,368.20	0.00	0.00	0.00	0.00	0.00	1,152,368.20	Memo	0.0
153	RED LEDGES TANK ACCESS RC	12/31/08	70,181.58	0.00	0.00	2,807.26	1,403.63	4,210.89	65,970.69	S/L	50.0
154	RIVER ROAD SEWER PUMP ST/	12/31/08	9,261.72	0.00	0.00	0.00	0.00	0.00	9,261.72	Memo	0.0
156	RED LEDGES SEWER LIFT STA	12/31/08	3,223.90	0.00	0.00	0.00	0.00	0.00	3,223.90	Memo	0.0
157	TRIPLE CROWN SEWER CONNI	9/01/08	306,494.31	0.00	0.00	14,303.08	6,129.89	20,432.97	286,061.34	S/L	50.0
159	UVSC RIVER ROAD WATER LI	12/31/08	23,707.61	0.00	0.00	0.00	0.00	0.00	23,707.61	Memo	0.0
160	WASATCH CANAL TO TIMP CA	9/01/08	1,070,067.09	0.00	0.00	49,936.46	21,401.34	71,337.80	998,729.29	S/L	50.0
161	WATER BOOSTER PUMP STATI	12/31/08	50,232.50	0.00	0.00	0.00	0.00	0.00	50,232.50	Memo	0.0
162	WRF TO RED LEDGES - DESIGN	12/31/08	16,851.05	0.00	0.00	0.00	0.00	0.00	16,851.05	Memo	0.0
167	RED LEDGES 2008 CAPITALIZE	12/31/08	819,763.54	0.00	0.00	32,790.54	16,395.27	49,185.81	770,577.73	S/L	50.0
169	20" DIP WATER LINE - 2009 ADI	12/31/09	224,899.75	0.00	0.00	0.00	0.00	0.00	224,899.75	Memo	0.0
170	COYOTE LANE PUMP STATION	12/31/09	20,779.86	0.00	0.00	0.00	0.00	0.00	20,779.86	Memo	0.0
171	LAKE CREEK IRRIGATION - 20C	5/31/09	10,449.66	0.00	0.00	330.90	208.99	539.89	9,909.77	S/L	50.0
172	LAKE CREEK ROAD WATER LI	5/31/09	4,645.95	0.00	0.00	147.12	92.92	240.04	4,405.91	S/L	50.0
173	LIFT STATION TO NORTH PROI	12/31/09	232,734.39	0.00	0.00	0.00	0.00	0.00	232,734.39	Memo	0.0
174	OFF-SITE UTILITY CORRIDOR -	12/31/09	481,347.14	0.00	0.00	0.00	0.00	0.00	481,347.14	Memo	0.0
175	RED LEDGES TANK - 2009 ADD	12/31/09	2,601.87	0.00	0.00	0.00	0.00	0.00	2,601.87	Memo	0.0
177	SECONDARY IRRIGATION	4/30/09	424,357.20	0.00	0.00	14,145.24	8,487.14	22,632.38	401,724.82	S/L	50.0
178	TRIPLE CROWN SEWER CONNI	10/31/09	6,000.00	0.00	0.00	140.00	120.00	260.00	5,740.00	S/L	50.0
179	WATER BOOSTER PUMP STATI	12/31/09	30,763.21	0.00	0.00	0.00	0.00	0.00	30,763.21	Memo	0.0
180	RED LEDGES 2009 CAPITALIZE	12/31/09	894,287.50	0.00	0.00	17,885.75	17,885.75	35,771.50	858,516.00	S/L	50.0
181	ON-SITE SEWER LIFT STATION	12/31/09	12,297.23	0.00	0.00	0.00	0.00	0.00	12,297.23	Memo	0.0
182	CONNECTION FEES - SEWER	6/30/09	3,442,482.90	0.00	0.00	103,274.49	68,849.66	172,124.15	3,270,358.75	S/L	50.0
183	HWY 40 SEWER FORCE MAIN	12/31/09	8,330.98	0.00	0.00	0.00	0.00	0.00	8,330.98	Memo	0.0
190	RED LEDGES 2009 CAPITALIZE	12/31/09	894,287.50	0.00	0.00	17,885.75	17,885.75	35,771.50	858,516.00	S/L	50.0
191	CONNECTION FEES - WATER	6/30/09	3,442,482.89	0.00	0.00	103,274.49	68,849.66	172,124.15	3,270,358.74	S/L	50.0
194	2010 RED LEDGES BAN CAPITA	7/15/10	968,811.46	0.00	0.00	9,688.11	19,376.23	29,064.34	939,747.12	S/L	50.0

**Book Asset Detail 1/01/11 - 12/31/11**

FYE: 12/31/2011

Asset Id	Property Description	Date In Service	Book Cost	Book Sec 179 Exp c	Book Sal Value	Book Prior Depreciation	Book Current Depreciation	Book End Depr	Book Net Value	Book Method	Book Period
<b>Group: Red Ledges Infrastructure (continued)</b>											
<b>Red Ledges Infrastructure</b>			24,275,714.20	0.00c	0.00	735,211.43	405,058.62	1,140,270.05	23,135,444.15		
<b>Group: Sewer System</b>											
4	Distribution Lines	6/01/98	13,527.59	0.00	0.00	3,404.42	270.55	3,674.97	9,852.62	S/L	50.0
8	Sewer System	6/01/98	1,515,321.48	0.00	0.00	381,355.91	30,306.43	411,662.34	1,103,659.14	S/L	50.0
29	Improvements - 13 Fire Hydrants	12/01/99	23,400.00	0.00	0.00	5,187.00	468.00	5,655.00	17,745.00	S/L	50.0
30	Improvements	8/08/99	12,953.45	0.00	0.00	2,957.72	259.07	3,216.79	9,736.66	S/L	50.0
31	Improvements	1/01/99	49,020.47	0.00	0.00	11,764.92	980.41	12,745.33	36,275.14	S/L	50.0
41	Improvements-Engineering	11/30/00	2,160.00	0.00	0.00	435.60	43.20	478.80	1,681.20	S/L	50.0
42	2 Fire Hydrants	3/20/00	3,600.00	0.00	0.00	774.00	72.00	846.00	2,754.00	S/L	50.0
43	Distribution Lines-Greener Hills	9/08/00	423,467.05	0.00	0.00	87,516.51	8,469.34	95,985.85	327,481.20	S/L	50.0
48	Lake Creek Rd Sewer Line	10/31/01	451,506.71	0.00	0.00	82,776.19	9,030.13	91,806.32	359,700.39	S/L	50.0
49	Drain Lines	10/31/01	3,800.00	0.00	0.00	696.67	76.00	772.67	3,027.33	S/L	50.0
53	Lake Creek Rd. Sewer Line	1/14/02	25,877.86	0.00	0.00	4,658.04	517.56	5,175.60	20,702.26	S/L	50.0
54	Lake Creek Rd. Sewer Line	3/28/02	4,950.50	0.00	0.00	866.34	99.01	965.35	3,985.15	S/L	50.0
55	Big Pole Sewer Line	9/30/02	616.25	0.00	0.00	101.72	12.33	114.05	502.20	S/L	50.0
84	Country Estates Sewer Line	8/01/04	479,961.10	0.00	0.00	61,595.00	9,599.22	71,194.22	408,766.88	S/L	50.0
85	Ron Davis Sewer Line	12/31/04	15,557.06	0.00	0.00	1,866.84	311.14	2,177.98	13,379.08	S/L	50.0
86	Cobblestone Phase I Sewer Line	1/01/04	134,442.00	0.00	0.00	18,821.88	2,688.84	21,510.72	112,931.28	S/L	50.0
87	Cobblestone Phase II Sewer Line	5/01/04	90,040.00	0.00	0.00	12,005.33	1,800.80	13,806.13	76,233.87	S/L	50.0
116	07 Beaufontaine - Sewer Sys	10/01/07	163,282.00	0.00	0.00	10,613.33	3,265.64	13,878.97	149,403.03	S/L	50.0
117	07 Cobblestone - Sewer Sys	11/01/07	33,390.00	0.00	0.00	2,114.70	667.80	2,782.50	30,607.50	S/L	50.0
118	07 Wasatch Meadows - Sewer Sys	11/01/07	12,300.00	0.00	0.00	779.00	246.00	1,025.00	11,275.00	S/L	50.0
119	07 Crossings - Sewer Sys	9/01/07	124,830.00	0.00	0.00	8,322.00	2,496.60	10,818.60	114,011.40	S/L	50.0
120	07 Fox Run - Sewer Sys	4/01/07	70,800.00	0.00	0.00	5,310.00	1,416.00	6,726.00	64,074.00	S/L	50.0
<b>Sewer System</b>			3,654,803.52	0.00c	0.00	703,923.12	73,096.07	777,019.19	2,877,784.33		
<b>Group: Vehicles</b>											
12	Dodge Ram 3500	11/30/98	24,716.00	0.00	0.00	24,716.00	0.00	24,716.00	0.00	S/L	5.0
47	1997 Ford F150	1/17/01	15,000.00	0.00	0.00	15,000.00	0.00	15,000.00	0.00	S/L	5.0
83	2005 Ford F150 XLT Supercab	12/31/04	23,572.00	0.00	0.00	23,572.00	0.00	23,572.00	0.00	S/L	5.0
111	2002 Dodge Quad Cab	11/16/06	16,500.00	0.00	0.00	13,475.00	3,025.00	16,500.00	0.00	S/L	5.0
<b>Vehicles</b>			79,788.00	0.00c	0.00	76,763.00	3,025.00	79,788.00	0.00		
<b>Group: Water Shares</b>											
45	16.82 Shares Reservoir Water	1/01/01	757,000.00	0.00	0.00	0.00	0.00	0.00	757,000.00	Land	0.0
46	20.111 Shares LC IRR Water	1/01/01	905,000.00	0.00	0.00	0.00	0.00	0.00	905,000.00	Land	0.0
52	2.777777 shares LC IRR Water	3/28/02	125,000.00	0.00	0.00	0.00	0.00	0.00	125,000.00	Land	0.0
64	2.1111 Shares LC IRR Water	3/11/03	95,000.00	0.00	0.00	0.00	0.00	0.00	95,000.00	Land	0.0
65	.22222 Shares LC IRR Water	3/31/03	10,000.00	0.00	0.00	0.00	0.00	0.00	10,000.00	Land	0.0
66	1/9 Share	8/31/03	5,000.00	0.00	0.00	0.00	0.00	0.00	5,000.00	Land	0.0
67	1/9 Share	12/10/03	5,000.00	0.00	0.00	0.00	0.00	0.00	5,000.00	Land	0.0
77	1/9 Share	3/23/04	5,000.00	0.00	0.00	0.00	0.00	0.00	5,000.00	Land	0.0
78	7 2/9 Share	6/22/04	325,000.00	0.00	0.00	0.00	0.00	0.00	325,000.00	Land	0.0

Book Asset Detail 1/01/11 - 12/31/11

FYE: 12/31/2011

Asset	dt	Property Description	Date In Service	Book Cost	Book Sec 179 Exp c	Book Sal Value	Book Prior Depreciation	Book Current Depreciation	Book End Depr	Book Net Book Value	Book Method	Book Period
<b>Group: Water Shares (continued)</b>												
79		1/9 Share	8/17/04	5,000.00	0.00	0.00	0.00	0.00	0.00	5,000.00	Land	0.0
80		2/9 Share	10/22/04	10,000.00	0.00	0.00	0.00	0.00	0.00	10,000.00	Land	0.0
81		1 7/36 Share	12/22/04	53,750.00	0.00	0.00	0.00	0.00	0.00	53,750.00	Land	0.0
82		21.35 Water Right 55-8222 Shares	12/30/04	960,000.00	0.00	0.00	0.00	0.00	0.00	960,000.00	Land	0.0
97		2.25 Shares	5/26/05	101,250.00	0.00	0.00	0.00	0.00	0.00	101,250.00	Land	0.0
98		1 Share	5/26/05	45,000.00	0.00	0.00	0.00	0.00	0.00	45,000.00	Land	0.0
99		1.5 Shares	5/26/05	67,500.00	0.00	0.00	0.00	0.00	0.00	67,500.00	Land	0.0
100		1 Share	11/14/05	70,000.00	0.00	0.00	0.00	0.00	0.00	70,000.00	Land	0.0
101		3 4/9 Shares	11/14/05	241,111.00	0.00	0.00	0.00	0.00	0.00	241,111.00	Land	0.0
102		1/9 Share	12/02/05	7,778.00	0.00	0.00	0.00	0.00	0.00	7,778.00	Land	0.0
103		1/2 Share	12/02/05	35,000.00	0.00	0.00	0.00	0.00	0.00	35,000.00	Land	0.0
131		Lake Creek Irr. Co. - 1,011.33 acre	12/31/07	25,283,250.00	0.00	0.00	0.00	0.00	0.00	25,283,250.00	Land	0.0
132		Temp Irr. Co. - 100.00 acre feet	12/13/07	350,000.00	0.00	0.00	0.00	0.00	0.00	350,000.00	Land	0.0
133		Wasatch Irr. Co. - 8.00 acre feet	12/31/07	56,000.00	0.00	0.00	0.00	0.00	0.00	56,000.00	Land	0.0
192		WASATCH IRRIGATION 11.815	12/31/09	472,600.00	0.00	0.00	0.00	0.00	0.00	472,600.00	Land	0.0
193		LAKE CREEK IRRIGATION 3 SH	12/31/09	545,200.00	0.00	0.00	0.00	0.00	0.00	545,200.00	Land	0.0
<b>Water Shares</b>				<b>30,535,439.00</b>	<b>0.00c</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>30,535,439.00</b>		<b>0.0</b>

Group: Water System

44		Water Lines - Greener Hills	9/08/00	621,842.25	0.00	0.00	128,514.12	12,436.85	140,950.97	480,891.28	S/L	50.0
58		Water Lines-1200 South	3/28/02	3,325.00	0.00	0.00	581.88	66.50	648.38	2,676.62	S/L	50.0
59		Water Lines-1200 South	4/30/02	8,645.00	0.00	0.00	1,498.47	172.90	1,671.37	6,973.63	S/L	50.0
60		Water Lines-1200 South	6/18/02	2,228.25	0.00	0.00	378.84	44.57	423.41	1,804.84	S/L	50.0
61		Water Lines-1200 South	7/31/02	133.00	0.00	0.00	22.39	2.66	25.05	107.95	S/L	50.0
75		Water Lines - 1200 South	5/31/03	263,307.92	0.00	0.00	39,935.05	5,266.16	45,201.21	218,106.71	S/L	50.0
88		Ron Davis Water Line	12/30/04	15,557.05	0.00	0.00	1,866.84	311.14	2,177.98	13,379.07	S/L	50.0
91		Cobblestone Phase I Water Line	1/01/04	56,920.00	0.00	0.00	7,968.80	1,138.40	9,107.20	47,812.80	S/L	50.0
92		Cobblestone Phase II Water Line	5/01/04	68,780.00	0.00	0.00	9,170.67	1,375.60	10,546.27	58,233.73	S/L	50.0
104		Pvr Valve Meter System Imprvmt	4/15/05	5,571.84	0.00	0.00	640.78	111.44	752.22	4,819.62	S/L	50.0
112		Water Line Extension	5/26/06	23,502.00	0.00	0.00	2,154.35	470.04	2,624.39	20,877.61	S/L	50.0
114		CLYDE LAKE LINE RPR	10/31/06	13,500.00	0.00	0.00	1,125.00	270.00	1,395.00	12,105.00	S/L	50.0
121		07 Beaufontaine - Water lines	10/01/07	222,750.00	0.00	0.00	14,478.75	4,455.00	18,933.75	203,816.25	S/L	50.0
122		07 Cobblestone - Water lines	11/01/07	80,762.00	0.00	0.00	5,114.93	1,615.24	6,730.17	74,031.83	S/L	50.0
123		07 Wasatch Meadows - Water lines	11/01/07	28,600.00	0.00	0.00	1,811.33	572.00	2,383.33	26,216.67	S/L	50.0
124		07 Crossings - Water lines	9/01/07	210,778.00	0.00	0.00	14,051.87	4,215.56	18,267.43	192,510.57	S/L	50.0
125		07 Wild Mare Farm - Water lines	4/01/07	149,977.00	0.00	0.00	11,248.27	2,999.54	14,247.81	135,729.19	S/L	50.0
126		07 Fox Run - Water lines	4/01/07	266,000.00	0.00	0.00	19,950.00	5,320.00	25,270.00	240,730.00	S/L	50.0
127		Eden Valley Pipeline	4/18/07	9,405.18	0.00	0.00	689.70	188.10	877.80	8,527.38	S/L	50.0
168		LAKE CREEK CULVERT	3/31/09	17,912.65	0.00	0.00	626.94	358.25	985.19	16,927.46	S/L	50.0
185		BIG POLE WATER LINE	12/31/09	10,991.48	0.00	0.00	0.00	0.00	0.00	10,991.48	Memo	0.0
188		IRRIGATION METER PROJECT	12/31/09	9,311.51	0.00	0.00	0.00	0.00	0.00	9,311.51	Memo	0.0
197		Holding Tank Fencing	8/01/11	6,431.00	0.00c	0.00	0.00	267.96	267.96	6,163.04	S/L	10.0
<b>Water System</b>				<b>2,096,231.13</b>	<b>0.00c</b>	<b>0.00</b>	<b>261,828.98</b>	<b>41,657.91</b>	<b>303,486.89</b>	<b>1,792,744.24</b>		<b>50.0</b>

**Book Asset Detail 1/01/11 - 12/31/11**

FYE: 12/31/2011

Asset Id	Property Description	Date In Service	Book Cost	Book Sec 179 Exp c	Book Sal Value	Book Prior Depreciation	Book Current Depreciation	Book End Depr	Book Net Book Value	Book Method	Book Period
<b>Group: Water System Improvements</b>											
139	2008 DEER VALLEY DAM IMPR	10/01/08	25,547.15	0.00	0.00	1,149.62	510.94	1,660.56	23,886.59	S/L	50.0
140	2008 JONES DAM IMPROVEMEN	10/01/08	59,845.07	0.00	0.00	2,693.03	1,196.90	3,889.93	55,955.14	S/L	50.0
141	2008 ATKINSON DAM IMPROVI	6/30/09	14,276.13	0.00	0.00	428.28	285.52	713.80	13,562.33	S/L	50.0
186	CLYDE LAKE RESERVOIR DAM	8/31/09	40,782.86	0.00	0.00	1,087.55	815.66	1,903.21	38,879.65	S/L	50.0
187	DEER VALLEY DAM	9/30/09	5,507.88	0.00	0.00	137.70	110.16	247.86	5,260.02	S/L	50.0
189	PRV REPLACEMENT PROJECT	11/30/09	268,324.85	0.00	0.00	5,813.71	5,366.50	11,180.21	257,144.64	S/L	50.0
<b>Water System Improvements</b>			<u>414,283.94</u>	<u>0.00c</u>	<u>0.00</u>	<u>11,309.89</u>	<u>8,285.68</u>	<u>19,595.57</u>	<u>394,688.37</u>		
<b>Group: Water Treatment Plant</b>											
3	Water Treatment Plant	3/01/96	2,346,049.94	0.00	0.00	695,902.83	46,921.00	742,823.83	1,603,226.11	S/L	50.0
13	Improvements	7/01/98	6,282.50	0.00	0.00	1,570.63	125.65	1,696.28	4,586.22	S/L	50.0
14	Power Pond Improvements	1/05/98	14,830.00	0.00	0.00	3,855.80	296.60	4,152.40	10,677.60	S/L	50.0
27	Sprinkler System	10/13/99	6,100.00	0.00	0.00	3,431.25	305.00	3,736.25	2,363.75	S/L	20.0
28	Gas Hookup	10/13/99	1,200.00	0.00	0.00	270.00	24.00	294.00	906.00	S/L	50.0
63	Carpet	4/15/02	1,615.55	0.00	0.00	1,413.55	161.56	1,575.11	40.44	S/L	10.0
128	Filter Sand	4/03/07	10,423.27	0.00	0.00	3,908.74	1,042.33	4,951.07	5,472.20	S/L	10.0
129	Landscaping - Split railing	7/10/07	13,963.00	0.00	0.00	2,443.53	698.15	3,141.68	10,821.32	S/L	20.0
137	HYDRO-CHLORINATOR	4/25/08	46,976.64	0.00	0.00	2,505.42	939.53	3,444.95	43,531.69	S/L	50.0
138	SOURCE MIXING PLANT - 2008	12/31/08	30,689.75	0.00	0.00	0.00	0.00	0.00	30,689.75	Memo	0.0
184	SOURCE MIXING PLANT - 2009	12/31/09	109,831.96	0.00	0.00	0.00	0.00	0.00	109,831.96	Memo	0.0
196	Source Mixing Plant - 2010	1/01/11	11,697.00	0.00c	0.00	0.00	0.00	0.00	11,697.00	Memo	0.0
<b>Water Treatment Plant</b>			<u>2,599,659.61</u>	<u>0.00c</u>	<u>0.00</u>	<u>715,301.75</u>	<u>50,513.82</u>	<u>765,815.57</u>	<u>1,833,844.04</u>		
<b>Grand Total</b>			<u>65,439,184.96</u>	<u>0.00c</u>	<u>0.00</u>	<u>3,035,775.16</u>	<u>601,600.01</u>	<u>3,637,375.17</u>	<u>61,801,809.79</u>		

**Book Current Year Additions**

FYE: 12/31/2011

<u>Asset</u>	<u>Property Description</u>	<u>Date In Service</u>	<u>Book Cost</u>
<b><u>Group: Water System</u></b>			
197	Holding Tank Fencing	8/01/11	<u>6,431.00</u>
		<b>Water System</b>	<u><u>6,431.00</u></u>
<b><u>Group: Water Treatment Plant</u></b>			
196	Source Mixing Plant - 2010	1/01/11	<u>11,697.00</u>
		<b>Water Treatment Plant</b>	<u><u>11,697.00</u></u>
		<b>Grand Total</b>	<u><u>18,128.00</u></u>

**APPENDIX C**  
**NOTICE OF INTENT**

January 17, 2013

**RE: NOTICE OF TWIN CREEKS SPECIAL SERVICE DISTRICT'S INTENT  
TO PREPARE AN IMPACT FEE FACILITIES PLAN AND IMPACT FEE  
ANALYSIS**

As per Section 11-36a-501 and 11-36a-503 of the Utah Code Annotated, Twin Creeks Special Service District is herewith posting notice of its intent to prepare an Impact Fee Facilities Plan and Impact Fee Analysis. It is anticipated that the analysis and resulting proposed improvements will be confined to the boundaries of the District. The approximate boundaries of the District in Wasatch County are Center Creek Road to the south, 500 East to the east, the Wasatch Mountains to the north, and 6400 East to the west.

Interested parties are hereby invited to submit any information they wish the District to consider during the study. Of special interest will be any proposed projects or major industrial, commercial or residential developments on the horizon. The District will need this information by February 18, 2013 in order to complete its Impact Fee Facilities Plan and Impact Fee Analysis in a timely manner. If you have any questions or comments, please feel free to contact me at 435-657-3244.

Sincerely,

**TWIN CREEKS SPECIAL SERVICE DISTRICT**

Darrel Scow, P.E.  
District Engineer

**APPENDIX D**  
**RATE MODEL**

**Table D-1**  
**Twin Creeks Special Service District - Water Rate Study**  
**Connection Fee Revenue**

Size of Meter	Impact Fee	Actual	Projected	Projected	Projected	Projected	Projected	Projected
		2012	2013	2014	2015	2016	2017	2018
3/4 and smaller	\$6,139		\$92,567	\$99,089	\$106,072	\$113,546	\$121,546	\$130,111
<b>Total Impact Fee Revenue</b>		\$35,322	<b>\$92,567</b>	<b>\$99,089</b>	<b>\$106,072</b>	<b>\$113,546</b>	<b>\$121,546</b>	<b>\$130,111</b>

**Table D-2**  
**Twin Creeks Special Service District - Water Rate Study**  
**Non-Rate Revenue (Including Connection Fees)**

Assumed Inflation Rate = 3.0%      Assumed Water Portion of Overhead = 80.0%

Item		Projected	Projected	Projected	Projected	Projected	Projected	
		2012	2013	2014	2015	2016	2017	2018
<i>Operations</i>								
Penalty Fees		\$28,881	\$22,080	\$23,636	\$25,301	\$27,084	\$28,992	\$31,035
Interest Revenue		\$17,893	\$17,893	\$17,893	\$17,893	\$17,893	\$17,893	\$17,893
Misc. Revenue		\$16	\$0	\$0	\$0	\$0	\$0	\$0
Unused			\$0	\$0	\$0	\$0	\$0	\$0
<b>Total Operations Non-Rate Revenue</b>		\$46,790	\$39,973	\$41,529	\$43,194	\$44,977	\$46,886	\$48,929
<i>Expansion and Replacement</i>								
Connection Fees	\$ 11,550.00	\$9,240	\$10,168	\$11,190	\$12,314	\$13,551	\$14,912	\$16,411
Inspection Fees	\$ 3,150.00	\$2,520	\$2,773	\$3,052	\$3,358	\$3,696	\$4,067	\$4,476
Contributed Capital	\$ 18,333.33	\$14,667	\$0	\$0	\$0	\$0	\$0	\$0
Gain (Loss) on Sale of Assets	\$ 7,470.00	\$5,976	\$0	\$0	\$0	\$0	\$0	\$0
Unused		\$0	\$0	\$0	\$0	\$0	\$0	\$0
Impact Fees		\$35,322	\$92,567	\$99,089	\$106,072	\$113,546	\$121,546	\$130,111
<b>Total Expansion Non-Rate Revenue</b>		<b>\$67,725</b>	<b>\$105,508</b>	<b>\$113,331</b>	<b>\$121,744</b>	<b>\$130,792</b>	<b>\$140,526</b>	<b>\$150,997</b>
<b>Total Non-Rate Revenue</b>		<b>\$114,514</b>	<b>\$145,482</b>	<b>\$154,860</b>	<b>\$164,938</b>	<b>\$175,770</b>	<b>\$187,411</b>	<b>\$199,925</b>

**Table D-3**  
**Twin Creeks Special Service District - Water Rate Study**  
**Revenue Requirements**  
**Cash Basis**

Item		Projected	Projected	Projected	Projected	Projected	Projected	
		2012	2013	2014	2015	2016	2017	2018
<i>O&amp;M</i>								
Total Expenses	Water Only							
Salaries and Related benefits	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Travel	\$ 1,082.66	\$866	\$923	\$983	\$1,047	\$1,115	\$1,188	\$1,265
Training/Conferences	\$ 507.06	\$406	\$432	\$460	\$490	\$522	\$556	\$593
Utilities	\$ 32,287.79	\$25,830	\$27,515	\$29,310	\$31,222	\$33,259	\$35,428	\$37,739
Phones	\$ 2,019.90	\$1,616	\$1,721	\$1,834	\$1,953	\$2,081	\$2,216	\$2,361
Overhead/Management	\$ 216,000.00	\$172,800	\$184,072	\$196,079	\$208,870	\$222,494	\$237,008	\$252,468
Legal Fees	\$ 24,984.59	\$19,988	\$8,000	\$8,522	\$9,078	\$9,670	\$10,301	\$10,973
Twin Creeks Water	\$ 74,217.72	\$ 74,217.72	\$83,900	\$94,846	\$107,220	\$121,208	\$137,021	\$154,897
Heber City Flow Usage	\$ 39,679.03	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Bank Charges	\$ 1,320.77	\$1,057	\$2,000	\$2,130	\$2,269	\$2,417	\$2,575	\$2,743
Materials	\$ 10,066.69	\$8,053	\$8,579	\$9,138	\$9,734	\$10,369	\$11,046	\$11,766
Supplies	\$ 35,300.52	\$28,240	\$30,083	\$32,045	\$34,135	\$36,362	\$38,734	\$41,260
Postage	\$ 5,779.06	\$4,623	\$4,925	\$5,246	\$5,588	\$5,953	\$6,341	\$6,755
Tools	\$ -	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Services	\$ 72,982.29	\$58,386	\$23,186	\$24,698	\$26,309	\$28,025	\$29,853	\$31,801
Insurance- Liability	\$ 16,959.00	\$13,567	\$14,452	\$15,395	\$16,399	\$17,469	\$18,608	\$19,822
Vehicle Expense	\$ 7,231.13	\$5,785	\$6,162	\$6,564	\$6,992	\$7,449	\$7,934	\$8,452
Lake Creek Irr Hookup Fees	\$ -	\$ -	\$0	\$0	\$0	\$0	\$0	\$0
Bad Debt Expense	\$ 147.00	\$118	\$125	\$133	\$142	\$151	\$161	\$172
Miscellaneous Expense		\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt Service Fees	\$ 18,160.00	\$14,528	\$15,476	\$16,485	\$17,561	\$18,706	\$19,926	\$21,226
Water Purchase Costs from JSSD (Red Ledges)		\$0	\$10,335	\$15,589	\$21,214	\$27,235	\$33,681	\$40,581
Unused		\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total O&amp;M</b>		<b>\$430,080</b>	<b>\$421,885</b>	<b>\$459,459</b>	<b>\$500,225</b>	<b>\$544,486</b>	<b>\$592,579</b>	<b>\$644,875</b>
<i>Debt Service</i>								
Series 1996 Principal		\$45,000	\$50,000	\$56,000	\$63,000	\$70,000	\$77,000	\$84,000
Series 1996 interest		\$49,710	\$48,360	\$46,860	\$45,180	\$43,290	\$41,190	\$38,880
Series 2004 Principal		\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Series 2004 Interest		\$0	\$0	\$0	\$0	\$0	\$0	\$0
2015 Bond for Tank		\$0	\$0	\$0	\$0	\$137,550	\$137,550	\$137,550
2020 Bond for Treatment		\$0	\$0	\$0	\$0	\$0	\$0	\$0
Unused		\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total Debt Service</b>		<b>\$99,710</b>	<b>\$103,360</b>	<b>\$107,860</b>	<b>\$113,180</b>	<b>\$255,840</b>	<b>\$260,740</b>	<b>\$265,430</b>
<i>Capital Improvements</i>								
<b>Growth Related</b>								
Connection to WTP			\$26,780	\$0	\$0	\$0	\$0	\$0
Bypass for HL&P			\$136,990	\$0	\$0	\$0	\$0	\$0
5700 East Redundant Connection			\$0	\$90,972	\$0	\$0	\$0	\$0
1970 East Redundant Connection			\$0	\$90,972	\$0	\$0	\$0	\$0
First Tank Gallon Storage Tank			\$0	\$0	\$1,823,761	\$0	\$0	\$0
3600 East Redundant Connection			\$0	\$0	\$93,701	\$0	\$0	\$0
Replace PRV			\$0	\$0	\$0	\$77,660	\$0	\$0
Treatment Plant Expansion			\$0	\$0	\$0	\$0	\$0	\$0
Unused			\$0	\$0	\$0	\$0	\$0	\$0
2012 Expenditures		\$64,484	\$0	\$0	\$0	\$0	\$0	\$0
<b>Bond Revenue</b>								
2015 Bond for Tank			\$0	\$0	(\$1,823,761)	\$0	\$0	\$0
2020 Bond for Treatment			\$0	\$0	\$0	\$0	\$0	\$0
Transfer to/(from) Reserve Fund			(\$76,476)	(\$63,724)	\$61,441	(\$14,944)	\$78,545	\$96,811
<b>Total Capital Outlays</b>		<b>\$64,484</b>	<b>\$87,294</b>	<b>\$118,220</b>	<b>\$155,142</b>	<b>\$62,716</b>	<b>\$78,545</b>	<b>\$96,811</b>
<b>Gross Revenue Requirements</b>		<b>\$594,274</b>	<b>\$612,539</b>	<b>\$685,539</b>	<b>\$768,546</b>	<b>\$863,043</b>	<b>\$931,865</b>	<b>\$1,007,116</b>
LESS:								
Operations Non-Rate Revenue		\$46,790	\$39,973	\$41,529	\$43,194	\$44,977	\$46,886	\$48,929
Expansion Non-Rate Revenue		\$67,725	\$105,508	\$113,331	\$121,744	\$130,792	\$140,526	\$150,997
<b>Net Revenue Requirements</b>		<b>\$ 479,760</b>	<b>\$ 467,057</b>	<b>\$ 530,679</b>	<b>\$ 603,608</b>	<b>\$ 687,274</b>	<b>\$ 744,454</b>	<b>\$ 807,191</b>





**Table Rates D-9**  
**Twin Creeks Special Service District - Water Rate Study**

Meter Size	Existing Rates		Projected Revenue					
	Existing		2013	2014	2015	2016	2017	2018
<i>101 (Not Impact Fee Eligible)</i>								
1 and Smaller	\$ 25.00		\$ 103,481	\$ 99,607	\$ 95,460	\$ 91,021	\$ 86,269	\$ 81,182
<i>102 - Residential (Outside Red Ledges)</i>								
1 and Smaller	\$ 38.00		\$ 236,244	\$ 243,604	\$ 251,484	\$ 259,918	\$ 268,947	\$ 278,611
<i>102 - Red Ledges (not Impact Fee Eligible)</i>								
1 and Smaller	\$ 38.00		\$ 21,714	\$ 32,755	\$ 44,573	\$ 57,225	\$ 70,768	\$ 85,265
<i>103</i>								
1 and Smaller	\$ 38.00		\$ 912	\$ 912	\$ 912	\$ 912	\$ 912	\$ 912
<i>104</i>								
1 and Smaller	\$ 38.00		\$ 2,280	\$ 2,280	\$ 2,280	\$ 2,280	\$ 2,280	\$ 2,280

	Block Volume Rates (\$/kgal)		Block Volume Rates (\$/kgal)					
	Existing		2013	2014	2015	2016	2017	2018
<i>Block 1 Rate</i>								
101 (Not Impact Fee Eligible)	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
102 - Residential (Outside Red Ledges)	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
102 - Red Ledges (not Impact Fee Eligible)	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
103	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
104	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unused	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Block 2 Rate</i>								
101 (Not Impact Fee Eligible)	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
102 - Residential (Outside Red Ledges)	\$ 15.00		\$ 57,746	\$ 59,545	\$ 61,471	\$ 63,533	\$ 65,740	\$ 68,102
102 - Red Ledges (not Impact Fee Eligible)	\$ 15.00		\$ 5,308	\$ 8,006	\$ 10,895	\$ 13,988	\$ 17,298	\$ 20,842
103	\$ 2.50		\$ 366	\$ 366	\$ 366	\$ 366	\$ 366	\$ 366
104	\$ 2.50		\$ 400	\$ 400	\$ 400	\$ 400	\$ 400	\$ 400
Unused	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Block 3 Rate</i>								
101 (Not Impact Fee Eligible)	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
102 - Residential (Outside Red Ledges)	\$ 15.00		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
102 - Red Ledges (not Impact Fee Eligible)	\$ 15.00		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
103	\$ 15.00		\$ 183	\$ 183	\$ 183	\$ 183	\$ 183	\$ 183
104	\$ 2.50		\$ 361	\$ 361	\$ 361	\$ 361	\$ 361	\$ 361
Unused	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Block 4 Rate</i>								
101 (Not Impact Fee Eligible)	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
102 - Residential (Outside Red Ledges)	\$ 15.00		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
102 - Red Ledges (not Impact Fee Eligible)	\$ 15.00		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
103	\$ 15.00		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
104	\$ 15.00		\$ 285	\$ 285	\$ 285	\$ 285	\$ 285	\$ 285
Unused	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

<b>Total Revenue</b>		\$429,280	\$448,305	\$468,671	\$490,472	\$513,809	\$538,790
<b>Total Needs</b>		\$467,057	\$530,679	\$603,608	\$687,274	\$744,454	\$807,191
<b>Difference</b>		-\$37,777	-\$82,373	-\$134,937	-\$196,802	-\$230,645	-\$268,401

**Table Rates D-10**  
**Twin Creeks Special Service District - Water Rate Study**  
**Calculated Rates (No Allowance)**

<b>Meter Size</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
1 and Smaller	\$9.73	\$10.33	\$10.91	\$11.67	\$12.05	\$12.44
1 1/2	\$16.40	\$17.47	\$18.56	\$19.89	\$20.54	\$21.20
2	\$24.39	\$26.04	\$27.75	\$29.75	\$30.72	\$31.71
3	\$43.05	\$46.02	\$49.18	\$52.77	\$54.49	\$56.23
4	\$69.70	\$74.57	\$79.80	\$85.64	\$88.43	\$91.26
6	\$136.32	\$145.95	\$156.36	\$167.84	\$173.30	\$178.83
8	\$216.27	\$231.60	\$248.22	\$266.48	\$275.13	\$283.92
10	\$309.54	\$331.53	\$355.40	\$381.55	\$393.94	\$406.52
12	\$513.86	\$550.42	\$590.16	\$633.62	\$654.19	\$675.08

**Block Volume Rates (\$/kgal)**

	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<i>Block 1 Rate</i>						
101 (Not Impact Fee Eligible)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
102 - Residential (Outside Red Ledges)	\$8.18	\$8.77	\$9.40	\$10.09	\$10.27	\$10.46
102 - Red Ledges (not Impact Fee Elig)	\$8.18	\$8.77	\$9.40	\$10.09	\$10.27	\$10.46
103	\$8.18	\$8.77	\$9.40	\$10.09	\$10.27	\$10.46
104	\$8.18	\$8.77	\$9.40	\$10.09	\$10.27	\$10.46
Unused	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<i>Block 2 Rate</i>						
101 (Not Impact Fee Eligible)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
102 - Residential (Outside Red Ledges)	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
102 - Red Ledges (not Impact Fee Elig)	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
103	\$9.29	\$10.04	\$10.84	\$11.72	\$11.88	\$12.07
104	\$9.26	\$9.99	\$10.79	\$11.66	\$11.83	\$12.02
Unused	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<i>Block 3 Rate</i>						
101 (Not Impact Fee Eligible)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
102 - Residential (Outside Red Ledges)	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
102 - Red Ledges (not Impact Fee Elig)	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
103	\$9.29	\$10.04	\$10.84	\$11.72	\$11.88	\$12.07
104	\$9.26	\$9.99	\$10.79	\$11.66	\$11.83	\$12.02
Unused	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<i>Block 4 Rate</i>						
101 (Not Impact Fee Eligible)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
102 - Residential (Outside Red Ledges)	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
102 - Red Ledges (not Impact Fee Elig)	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
103	\$9.29	\$10.04	\$10.84	\$11.72	\$11.88	\$12.07
104	\$9.26	\$9.99	\$10.79	\$11.66	\$11.83	\$12.02
Unused	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

**Table Rates D-11**  
**Twin Creeks Special Service District - Water Rate Study**  
**Calculated Rates**

<b>Meter Size</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<i>101 (Not Impact Fee Eligible)</i>						
1 and Smaller	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00
<i>All Other Rate Schedules</i>						
1 and Smaller	\$45.49	\$50.51	\$55.71	\$61.10	\$63.22	\$65.34
1 1/2	\$87.93	\$97.82	\$108.15	\$118.75	\$122.89	\$127.01
2	\$138.83	\$154.61	\$171.10	\$187.92	\$194.48	\$201.01
3	\$257.63	\$287.08	\$317.95	\$349.34	\$361.54	\$373.66
4	\$427.33	\$476.34	\$527.76	\$579.93	\$600.18	\$620.31
6	\$851.57	\$949.50	\$1,052.27	\$1,156.42	\$1,196.79	\$1,236.93
8	\$1,360.68	\$1,517.28	\$1,681.68	\$1,848.20	\$1,912.71	\$1,976.87
10	\$1,954.62	\$2,179.69	\$2,415.99	\$2,655.27	\$2,747.97	\$2,840.14
12	\$3,255.67	\$3,630.69	\$4,024.48	\$4,423.16	\$4,577.57	\$4,731.11
<b>Calculated Rates (1 inch and smaller)</b>	\$45.49	\$50.51	\$55.71	\$61.10	\$63.22	\$65.34
Should be Zero	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

**Block Volume Rates (\$/kgal)**

	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<i>Block 1 Rate</i>						
101 (Not Impact Fee Eligible)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
102 - Residential (Outside Red Ledges)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
102 - Red Ledges (not Impact Fee Eligi)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
103	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
104	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Unused	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<i>Block 2 Rate</i>						
101 (Not Impact Fee Eligible)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
102 - Residential (Outside Red Ledges)	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
102 - Red Ledges (not Impact Fee Eligi)	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
103	\$2.98	\$3.35	\$3.73	\$4.12	\$4.26	\$4.41
104	\$2.98	\$3.35	\$3.73	\$4.12	\$4.26	\$4.41
Unused	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<i>Block 3 Rate</i>						
101 (Not Impact Fee Eligible)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
102 - Residential (Outside Red Ledges)	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
102 - Red Ledges (not Impact Fee Eligi)	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
103	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
104	\$2.98	\$3.35	\$3.73	\$4.12	\$4.26	\$4.41
Unused	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<i>Block 4 Rate</i>						
101 (Not Impact Fee Eligible)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
102 - Residential (Outside Red Ledges)	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
102 - Red Ledges (not Impact Fee Eligi)	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
103	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
104	\$11.71	\$12.79	\$13.96	\$15.26	\$15.40	\$15.57
Unused	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

**Table Rates D-12**  
**Twin Creeks Special Service District - Water Rate Study**  
**Recommended Rates (Not Including Rate 101)**

**Monthly Base Rate (\$/month)**

<b>Meter Size</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
3/4 and smaller	\$ 43.48	\$ 49.15	\$ 55.07	\$ 61.10	\$ 63.22	\$ 65.34
1	\$ 83.89	\$ 95.11	\$ 106.87	\$ 118.75	\$ 122.89	\$ 127.01
1 1/2	\$ 132.38	\$ 150.27	\$ 169.05	\$ 187.92	\$ 194.48	\$ 201.01
2	\$ 245.53	\$ 278.95	\$ 314.12	\$ 349.34	\$ 361.54	\$ 373.66
3	\$ 407.16	\$ 462.79	\$ 521.37	\$ 579.93	\$ 600.18	\$ 620.31
4	\$ 811.25	\$ 922.39	\$ 1,039.51	\$ 1,156.42	\$ 1,196.79	\$ 1,236.93
6	\$ 1,296.15	\$ 1,473.91	\$ 1,661.25	\$ 1,848.20	\$ 1,912.71	\$ 1,976.87
8	\$ 1,861.87	\$ 2,117.35	\$ 2,386.64	\$ 2,655.27	\$ 2,747.97	\$ 2,840.14
10	\$ 3,101.08	\$ 3,526.78	\$ 3,975.55	\$ 4,423.16	\$ 4,577.57	\$ 4,731.11

**Block Volume Rates (\$/kgal)**

	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<i>Block 1 Rate</i>						
101 (Not Impact Fee Eligible)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
102 - Residential (Outside Red Ledges)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
102 - Red Ledges (not Impact Fee Elig)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
103	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
104	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unused	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Block 2 Rate</i>						
101 (Not Impact Fee Eligible)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
102 - Residential (Outside Red Ledges)	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.26	\$ 15.40	\$ 15.57
102 - Red Ledges (not Impact Fee Elig)	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.26	\$ 15.40	\$ 15.57
103	\$ 2.81	\$ 3.24	\$ 3.68	\$ 4.12	\$ 4.26	\$ 4.41
104	\$ 2.81	\$ 3.24	\$ 3.68	\$ 4.12	\$ 4.26	\$ 4.41
Unused	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Block 3 Rate</i>						
101 (Not Impact Fee Eligible)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
102 - Residential (Outside Red Ledges)	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.26	\$ 15.40	\$ 15.57
102 - Red Ledges (not Impact Fee Elig)	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.26	\$ 15.40	\$ 15.57
103	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.26	\$ 15.40	\$ 15.57
104	\$ 2.81	\$ 3.24	\$ 3.68	\$ 4.12	\$ 4.26	\$ 4.41
Unused	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Block 4 Rate</i>						
101 (Not Impact Fee Eligible)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
102 - Residential (Outside Red Ledges)	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.26	\$ 15.40	\$ 15.57
102 - Red Ledges (not Impact Fee Elig)	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.26	\$ 15.40	\$ 15.57
103	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.26	\$ 15.40	\$ 15.57
104	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.26	\$ 15.40	\$ 15.57
Unused	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -