



MEMORANDUM

Date: August 23, 2016

To: The Honorable Chair and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

Re: **2016 Regional Wastewater Reclamation Department Financial Plan**

This memorandum transmits the 2016 Financial Plan for Pima County's Regional Wastewater Reclamation Enterprise Fund prepared by the Finance and Risk Management Department.

Each year, the Finance and Risk Management Department prepares a financial plan in connection with the Regional Wastewater Reclamation Department and the Finance Subcommittee of the Regional Wastewater Reclamation Advisory Committee. The financial plan is presented to the Regional Wastewater Reclamation Advisory Committee for their consideration and recommendation to the Board of Supervisors regarding sewer rates.

The 2016 Financial Plan reviews the financial needs of the Regional Wastewater Reclamation Enterprise Fund based on projected revenues, projected expenses, and projected capital improvement program for the current fiscal year and for the next four fiscal years through Fiscal Year 2019/20. The focus of the review is to determine the optimal sewer rates needed to ensure the County has sufficient revenues and resources available to do two things: 1) cover all operating, maintenance and debt expenses and required reserves; and 2) maintain adequate debt service ratios to obtain favorable bond ratings and ensure compliance with all debt requirements.

Based on this review, the Finance and Risk Management Department is recommending increasing rates by four percent early in Calendar Year 2017 and additional rate increases of four percent or more in January 2018 and January 2019. At its April 15, 2016 meeting, the Finance Subcommittee of the Regional Wastewater Reclamation Advisory Committee supported the recommendation of the first revenue increase of four percent in early Calendar Year 2017 and future revenue increases only if supported by further review. At its April 21, 2016 meeting, the Wastewater Reclamation Advisory Committee supported the same revenue increase recommendation.

The recommended revenue increases are expected to generate an additional \$3.2 million in the second half of FY 2016/17, \$9.5 million in FY 2017/18 and \$16.2 million in FY 2018/19. As shown in the Financial Plan, these revenue increases are necessary to maintain the financial health of Pima County's Enterprise Fund. Rating agencies concur with the Financial Plan's recommendations and have based their ratings in part on the County's history of adjusting rates when necessary, specifically mentioning the Financial Plan's recommended

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revenue increases. In fact, Standard and Poor's reported their stable outlook is dependent on Pima County adjusting rates to maintain its debt service ratios as described in the Financial Plan.

The Regional Wastewater Reclamation Department has reported to me that additional cuts to the Department's operating expenses could not be made without jeopardizing the safe operation of the system. I will be requesting the Board authorize the Calendar Year 2017 recommended rate increase at a future Board meeting.

Additionally, it is important to consider that Pima County's Enterprise Fund has not raised rates for three years, since July 2013. Since that time, the City of Tucson has raised its water rates 8 percent and 7 percent in FYs 2014/15 and 2015/16. Oro Valley Water, Marana Water, and Southwest Gas have also raised their rates by 2 percent, 5 percent, and 3 percent in FY 2015/16. Tucson Electric Power has requested a 12-percent rate increase for FY 2016/17.

CHH/mjk

Attachment

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Tom Burke, Deputy County Administrator for Administration
Jan Leshar, Deputy County Administrator for Community and Health Services
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2016 Financial Plan

Pima County

Regional Wastewater Reclamation Enterprise Fund

*Prepared by
Pima County Finance and Risk Management Department
June 2016*

2016 Financial Plan

Pima County Regional Wastewater Reclamation Enterprise Fund

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2016 Financial Plan

Pima County Regional Wastewater Reclamation Enterprise Fund

SUMMARY AND RECOMMENDATIONS

On an annual basis, Pima County reviews the rate structure for the sanitary sewer services provided by its Regional Wastewater Reclamation Department and prepares a report for the Board of Supervisors analyzing the current fee structure in conjunction with the County's overall annual budget process. The focus of the review is to determine the optimal sewer rates needed to ensure that the County has sufficient revenues to meet all operating and maintenance expenses, debt service payments, required reserves, and to maintain an adequate debt service ratio to obtain favorable bond ratings. This enables the County to continue to issue debt for the anticipated improvements in the Capital Improvement Program. There have been no rate increases since July 2013. System revenues continue to decline while operating costs and debt service payments continue to increase as the Department pursues \$30 million to \$45 million in capital projects, annually. Based on this review, the Finance and Risk Management Department is recommending:

1. The issuance of \$20 million of certificates of participation (COPs) in Fiscal Year 2015-2016 to fund current capital improvement projects.
2. The issuance of \$150 million of new sewer revenue obligations to fund future capital improvement projects as follows:
 - a. \$45 million in Fiscal Year 2016-2017,
 - b. \$45 million in Fiscal Year 2017-2018,
 - c. \$30 million in Fiscal Year 2018-2019, and
 - d. \$30 million in Fiscal Year 2019-2020.
3. The early repayment of \$10.3 million of WIFA Loans as those debts become callable in Fiscal Year 2016-2017, saving \$1.5 million in future interest costs and positively impacting the debt service ratios.
4. The adoption of a series of revenue increases, with the first increase of four percent implemented as early as possible in Calendar Year 2017, with similar revenue increases of four percent or more on January 1, 2018 and January 1, 2019, to ensure the County generates sufficient revenues to meet all operating and maintenance expenses, debt service payments, and required reserves.

2016 Financial Plan Pima County Regional Wastewater Reclamation Enterprise Fund

This report addresses the financial needs for the Regional Wastewater Reclamation Department based on the projected revenues, projected expenses, and projected capital improvement program expenses for Fiscal Year 2015-2016 through Fiscal Year 2019-2020. The 2015 Financial Plan included the recommendation of three annual rate increases at four percent, slated to begin July 1, 2015; however, the recommendation was not approved by the Board of Supervisors. As discussed in this report, the Pima County Finance and Risk Management Department is recommending three annual revenue increases to address the increasing cost of operations and debt service.

KEY ASSUMPTIONS

The Finance and Risk Management Department worked with the Regional Wastewater Reclamation Department and the Regional Wastewater Reclamation Advisory Committee to develop these assumptions. The major assumptions include relatively slow growth in the customer base, an increase in user fees and connection fees at the rate of population growth, a declining volume usage rate factor based on a five-year average, a capital improvement program of \$199 million, additional sewer revenue debt of \$150 million, and the issuance of an additional \$20 million of County certificates of participation (COPs) to be used for the Department's capital improvement program. Key assumptions used in this report are identified in Appendix A.

In order to determine rates, Finance and Risk Management analyzed the projected cash needs of the Department for upcoming capital projects, the amount of total revenues, the anticipated operating and maintenance costs, the debt service payments for existing debt, and anticipated debt service payments for planned debt that will be used to pay for the capital improvement program. Although the projected amounts change throughout the year as plans are refined and actual costs are determined, the estimates used for this analysis are as of December 31, 2015.

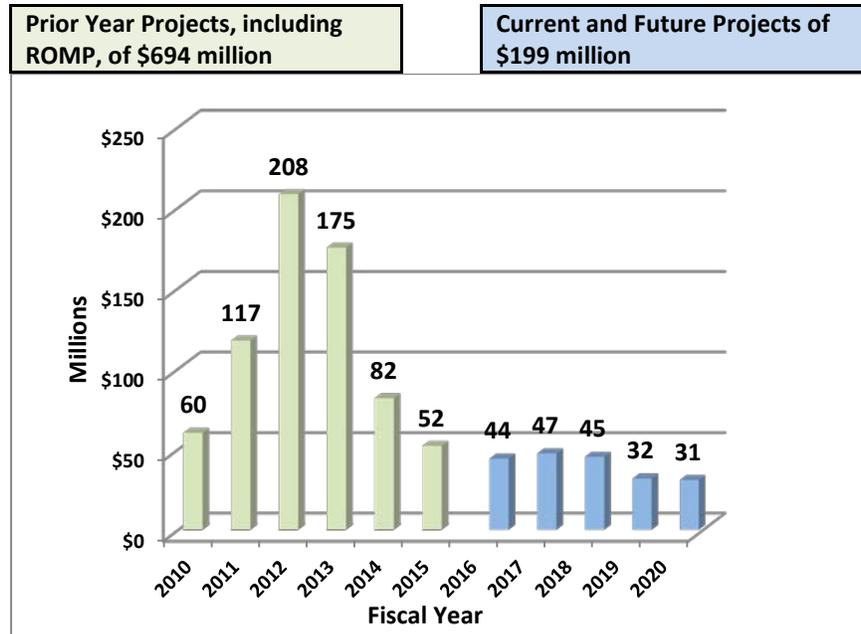
To show the financial impact of not increasing sewer rates, Appendix B, *Five Year Financial Projections Assuming No Rate Increases*, assumes zero rate increases and the utilization of available cash to rebate rates instead of prepaying \$10.3 million of debt in Fiscal Year 2017. Appendix C, *Five Year Financial Projections Assuming Three Four Percent Rate Increases*, assumes three rate increases of four percent with early repayment of \$10.3 million in debt in Fiscal Year 2016-2017. Based on the analysis of these two options, Finance and Risk Management recommends the three revenue increases shown in Appendix C. This scenario allows the County to generate sufficient revenues to cover necessary operations and maintenance expenses, debt service payments, and required reserves for all five years, while saving \$1.5 million of future interest with the early payment of \$10.3 million. Finance and Risk Management believes it is Pima County's responsibility to establish a prudent financial plan that continues the long term financial health of the County's sewer system.

CAPITAL IMPROVEMENT PROGRAM

Capital Improvement Program:

In Fiscal Year 2014-2015, Pima County significantly completed the Regional Optimization Master Plan (ROMP), which started in Fiscal Year 2008-2009. Since 2009, Pima County has had to address required upgrades to its sewer system to comply with federal and state environmental mandates, replacing the more than 50 year old Roger Road treatment facility and performing needed improvements and maintenance to the conveyance and treatment systems. In Fiscal Year 2009-2010, those requirements caused the County to embark on what was then an estimated \$974 million capital improvement program, scheduled through Fiscal Year 2018-2019. As shown in Figure 1, the County has completed the highest levels of construction activity and will have much lower capital needs in upcoming years. From Fiscal Year 2009-2010 to Fiscal Year 2019-2020, the overall cost of the capital improvement program is expected to be \$893 million, consisting of the \$694 million spent between Fiscal Year 2009-2010 and Fiscal Year 2014-2015 and \$199 million of anticipated capital expenditures over the next five years. The \$199 million for future capital expenditures are for necessary improvements and maintenance of the conveyance and treatment systems. An additional \$30 million to \$35 million in capital improvements are anticipated to be needed annually, thereafter.

Figure 1: Capital Project Costs



Although the projected amount of anticipated capital expenditures changes throughout the year as plans are refined and actual construction costs are determined, the Department’s estimate of capital projects as of December 2015 was used for this analysis. A summary of capital projects for

the Department for Fiscal Year 2015-2016 through Fiscal Year 2019-2020 can be found in Appendix D, *Five Year Summary of Planned Capital Improvement Projects*. As discussed on page 14, regarding the Expenditure Limitation Impact on Wastewater Projects, Pima County must continue to borrow funds for the \$199 million planned capital improvements program even though the County has significant levels of available cash in the fund.

REVENUES

User Fees and Connection Fees:

Revenues from the wastewater system are generated from two major sources, sewer user fees and sewer connection fees.

User fees consist of the combination of: (1) the standard service fee and (2) the volume rate fee. The last rate increase took effect almost three years ago on July 1, 2013. Without additional rate increases, user fee revenues are expected to remain essentially flat for the foreseeable future. Any increases or decreases will depend upon future growth in the number of new users and volume usage. Until this growth occurs, no additional revenue will be collected.

Connection fees are charged for new construction connecting to the sewer system for the first time or for renovation of existing improvements which require additional or larger water meters. Connection fees are established based primarily on water meter size, with increasing fees as water meter sizes increase. The principal factor that will affect revenues from future connection fees will be the volume of new construction within Pima County.

For purposes of this financial analysis, future user fees and connection fees are projected to increase at the same rate as the estimates for population growth issued in September 2015 by the University of Arizona Economic & Business Research Center. These estimates project population growth rates to be between 0.96 percent in Fiscal Year 2015-2016 and 1.44 percent in Fiscal Year 2019-2020, as indicated in Appendix A.

Declining Volume Usage:

Another factor that must be considered in determining future revenue projections is the recent downward trend in total influent flow, the amount of sewage flowing into the treatment plants. As Table 1 details, the annual influent flow for the system has been decreasing, on average, since Fiscal Year 2009. This downward trend has had a negative impact on the billings for the volume rate component within the user fee revenue calculation. The amount billed is based on an average water usage, also known as the winter quarter average, taken from the months of December, January, and February. As the monthly water consumption decreases, the amounts billed and collected also decrease. Based on the review of user fee revenues billed and collected for the past

five years, this downward trend has decreased revenues on average by approximately 1.8 percent. Therefore, we have utilized a 98.2 percent (100 percent – 1.8 percent = 98.2 percent) rate factor for future year projections. This is consistent with the experience of the water providers who serve the area and have been reporting decreases in water usage.

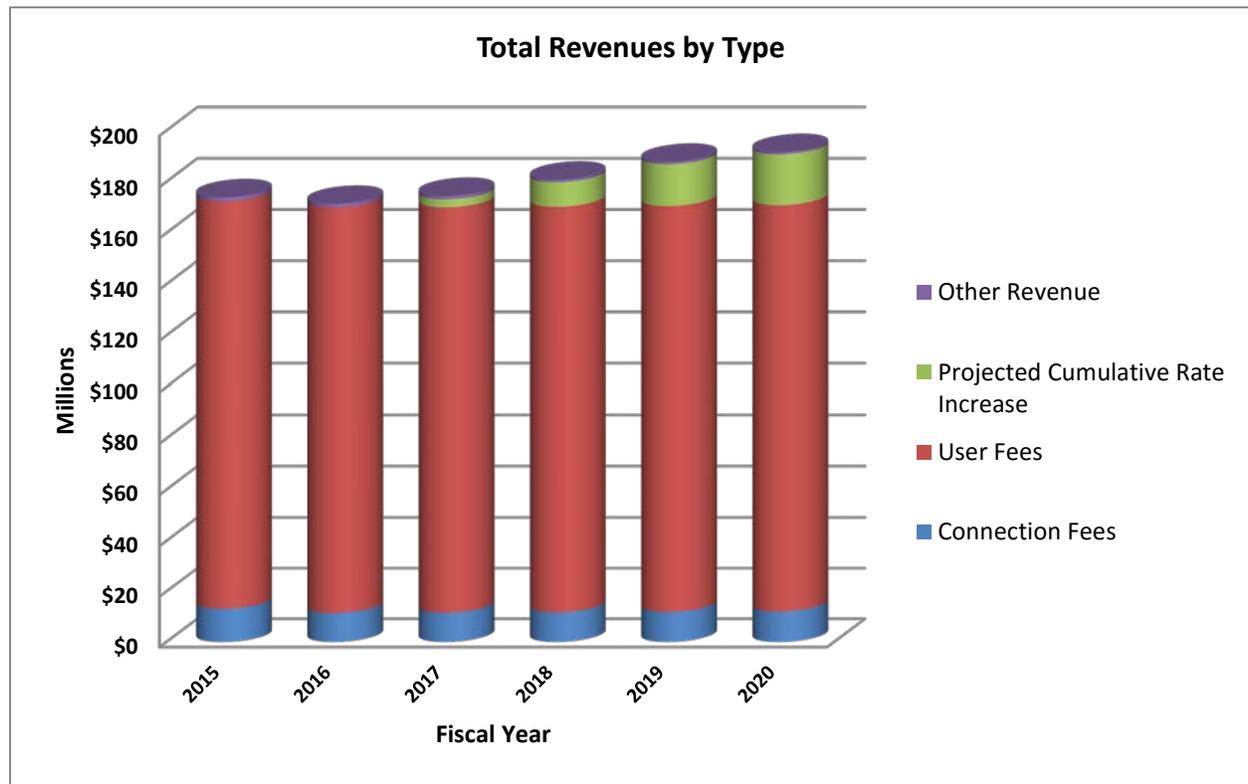
Table 1: Decreasing Influent

Fiscal Year	Total Influent (in Millions of Gallons)	Annual Percentage	Cumulative Decrease Since 2009
2009	23,851.95	0.00%	
2010	23,348.57	-2.11%	-2.11%
2011	22,797.57	-2.36%	-4.42%
2012	22,701.13	-0.42%	-4.82%
2013	22,236.45	-2.05%	-6.77%
2014	21,798.15	-1.97%	-8.61%
2015	21,911.68	0.52%	-8.13%

Total Revenues:

System revenues are decreasing. Overall, Fiscal Year 2014-2015 revenues saw a decrease from the prior fiscal year due to reduced volume usage, despite the increase in population growth. Fiscal Year 2015-2016 revenues, are also expected to decrease by about one and a half percent from \$174 million to \$171.4 million: \$158.6 million (or 93 percent) derived from sewer user fees, \$11.4 million derived from connection fees, and \$1.4 million derived from other revenues. This decrease is also due to reduced volume usage, despite the increase in population growth. From Fiscal Year 2016-2017 through Fiscal Year 2019-2020, user fee revenues are expected to remain relatively flat if rate increases are not approved. Figure 2 shows Total Revenues by Type for Fiscal Year 2014-2015, including projections through Fiscal Year 2019-2020, with a portion of those revenues attributable to connection fees, user fees without rate increases, user fees with the Finance and Risk Management recommended rate increases, and other revenues.

Figure 2: Total Revenues by Type



As detailed in Table 2, Connection Fees are expected to remain at or below \$12.1 million.

Table 2: Total Revenues by Type – Detail

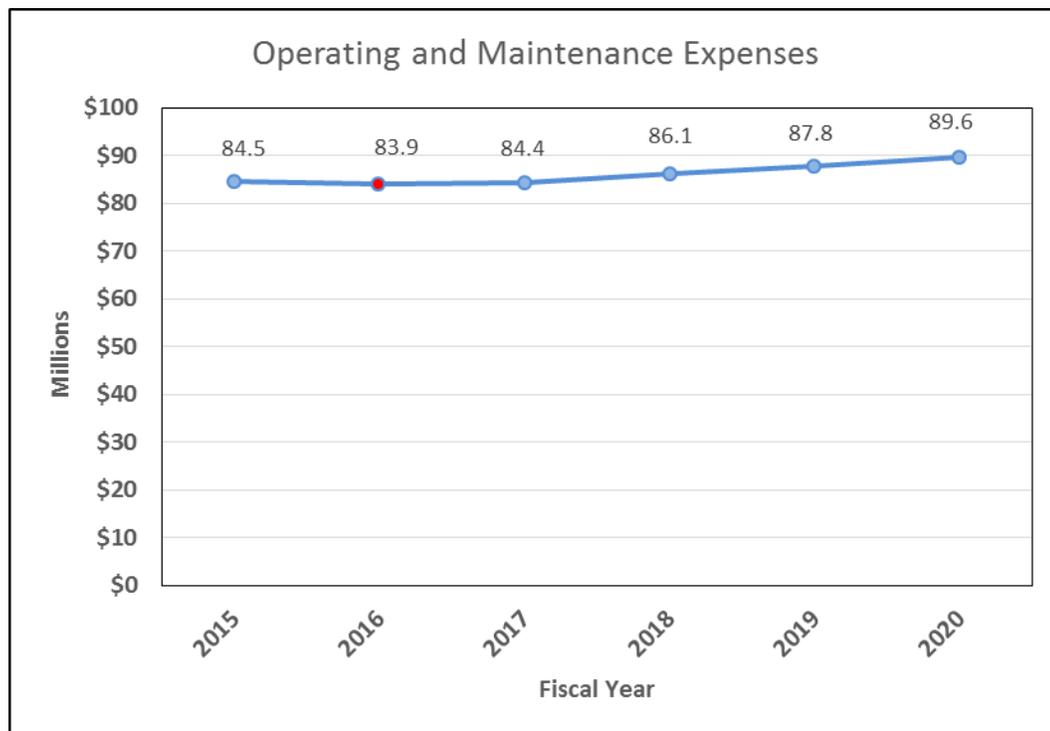
Fiscal Year	Connection Fees	User Fees	Projected Cumulative Rate Increase for FY 2017 - 2020	Other Revenue	Total Revenues
2015	\$ 13.1	\$ 159.3	\$ -	\$ 1.6	\$ 174.0
2016	11.4	158.6	-	1.4	171.4
2017	11.6	158.5	3.2	1.3	174.6
2018	11.7	158.6	9.6	1.0	180.9
2019	11.9	158.7	16.4	0.9	187.9
2020	12.1	158.8	19.8	0.9	191.6

OPERATING AND MAINTENANCE EXPENSES

Projected Operating and Maintenance Expenses:

The Department is expecting to complete Fiscal Year 2015-2016 with Operating and Maintenance (O&M) expenses of \$83.9 million. The budget for Fiscal Year 2016-2017 has not yet been determined, but for purposes of this analysis, the County is budgeting \$84.4 million with a two percent increase in operating costs the following fiscal years. The most significant portion of O&M costs relate to employee compensation, which, at \$32.6 million for Fiscal Year 2016-2017, represents 39 percent of total operating expenses. This financial analysis assumes that operating expenses will continue to increase by two percent each year, starting in Fiscal Year 2017-2018. At this rate of increase, the O&M costs are expected to increase by approximately \$5.7 million during the next four-year period. Figure 3 shows the increase in O&M expenses from Fiscal Year 2014-2015 to Fiscal Year 2019-2020.

Figure 3: Operating and Maintenance Expenses

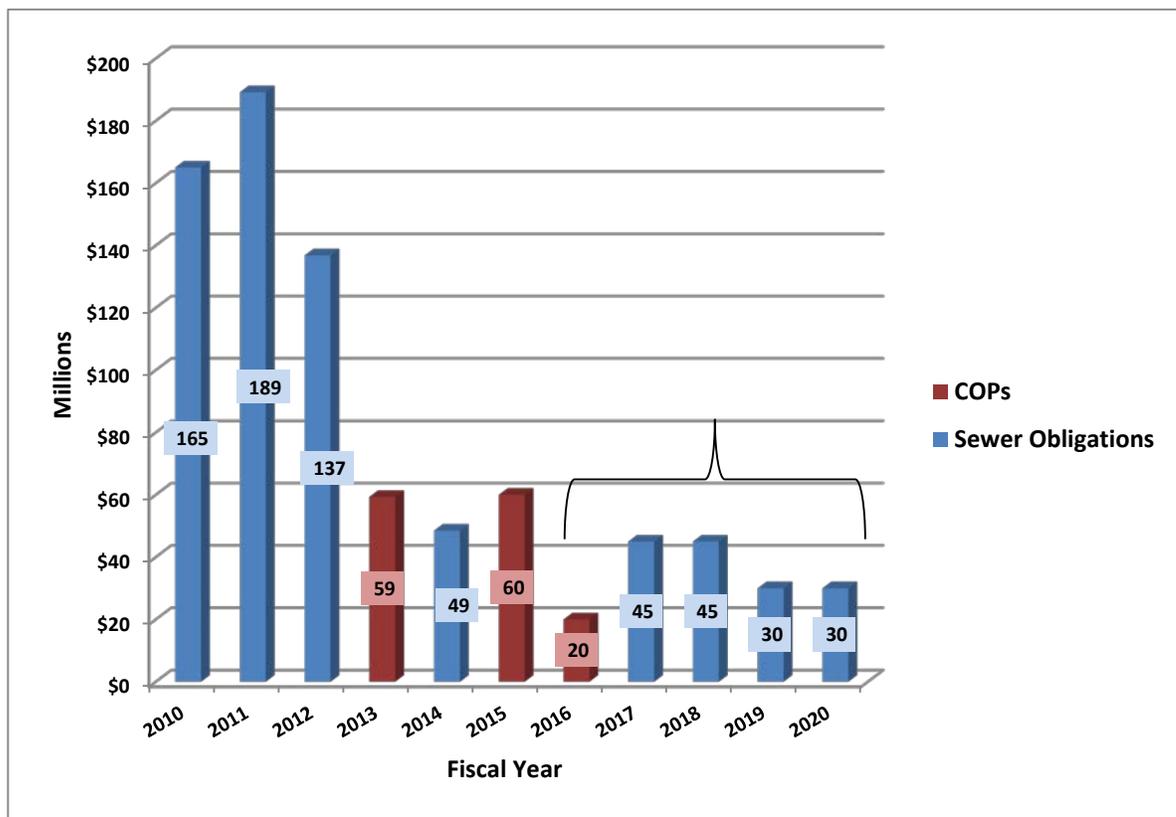


DEBT FINANCING

Sewer Revenue Debt Financing:

As of June 30, 2015, Pima County had \$608.9 million of sewer revenue debt outstanding. The County issued another \$20 million in COPs in April 2016 and plans to issue an additional \$150 million of new sewer revenue obligations over the next four years. Although the COPs issued in Fiscal Year 2015-2106 were not secured by sewer system revenues, repayment will be made from the cash generated by the sewer system revenues. Thus, an additional \$170 million of debt (\$20 million of Pima County COPs and \$150 million of sewer revenue debt, indicated by bracket in Figure 4) will be issued to fund the anticipated \$199 million of construction previously mentioned in this report. Figure 4 shows the amounts and timing of the future debt issues.

Figure 4: \$170 Million of Additional Debt 2016 Through 2020



As discussed in greater detail in the Cash Reserves, Cash Balances, and the Expenditure Limitation section, although the County has unrestricted cash in the sewer fund, the County cannot use the available cash for capital projects due to constitutional expenditure limitation restrictions. Instead, the County needs to finance its capital programs through debt financing. The County has used the available unrestricted cash to significantly decrease the overall debt service requirements by issuing COPs (with accelerated repayment schedules) and by prepaying existing debt as soon as possible.

DEBT SERVICE PAYMENTS

Debt Service Payments:

Because the County has issued significant debt in the last few years and anticipates additional debt as defined in Figure 5, total debt service payments are expected to continue increasing over the next few years, even though the annual level of projects is declining. Debt service for Fiscal Year 2015-2016 will be \$68.8 million, down from \$71.3 million last year.

Figure 5 shows the debt service payments from Fiscal Year 2014-2015 and the projected payments through Fiscal Year 2027-2028.

Figure 5: Debt Services Payments

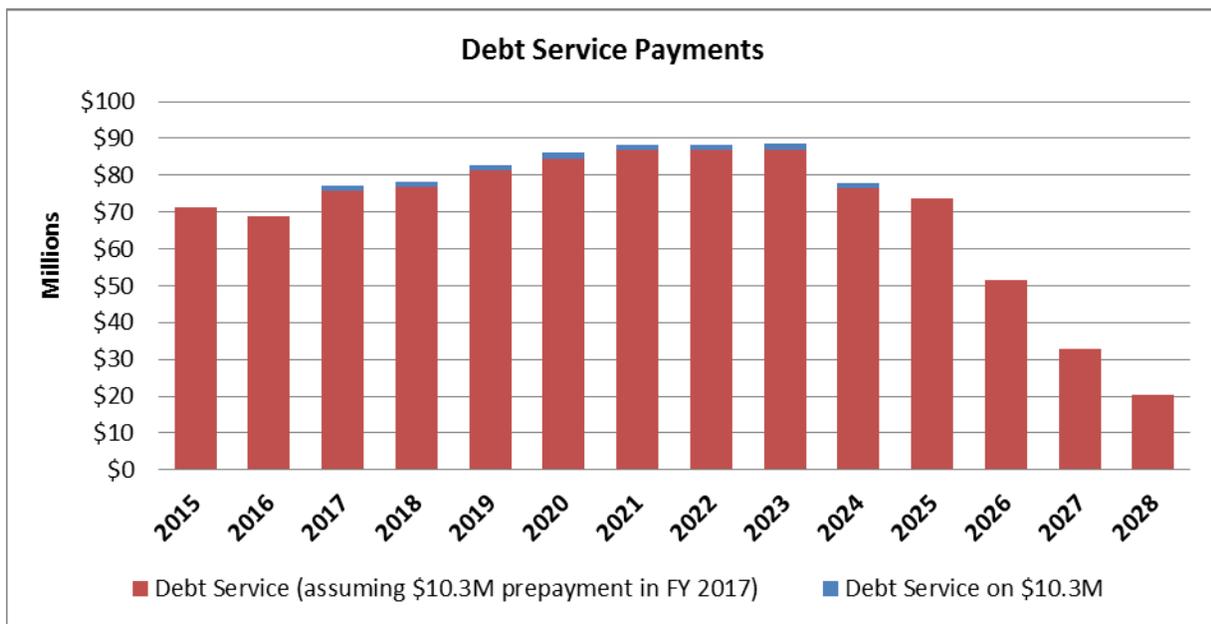


Table 3 details the impact on the debt service payments by year, if the early repayment of \$10.3 million of outstanding debt occurs when callable in Fiscal Year 2016-2017. By paying this debt early, the Department would save approximately \$1.5 million in future interest costs. It is important to note that these estimates assume that the County issues no new sewer revenue pledged debt after Fiscal Year 2019-2020. If the County does issue more debt secured by sewer revenues after Fiscal Year 2019-2020, the estimated debt service will increase.

Table 3: Debt Services Payment – Detail

Fiscal Year	Debt Service (assuming prepayment of \$10.3M in FY 2017)	Debt Service Payment on \$10.3M	Total Debt Service Payment (without prepayment)
2015	\$ 71.3	\$ -	\$ 71.3
2016	68.8	-	68.8
2017	75.8	1.3	77.1
2018	80.6	1.5	82.1
2019	85.1	1.5	86.6
2020	88.3	1.5	89.8
2021	90.6	1.5	92.1
2022	90.7	1.5	92.2
2023	90.8	1.5	92.3
2024	80.2	1.5	81.7
2025	77.6	-	77.6
2026	55.3	-	55.3
2027	32.8	-	32.8
2028	20.3	-	20.3

As seen in Table 3, when additional debt is issued, the debt service payments (assuming prepayment) are expected to continue increasing at least through Fiscal Year 2020-2021 to \$91 million and remain at that level for three years, with a rapid decrease after Fiscal Year 2022-2023, assuming no additional debt is issued after Fiscal Year 2019-2020.

The projections of debt service for future debt in Appendix C, showing recommended rate increases, include the assumption that Pima County will use available cash to accelerate the payment of principal on debt and save \$1.5 million in future interest costs, thereby reducing debt service requirements.

CASH RESERVES AND CASH BALANCES

Cash Reserves and Cash Balances:

The Pima County Regional Wastewater Reclamation Enterprise Fund has unrestricted cash and several types of restricted and designated cash accounts to meet the various debt covenants and to maintain an emergency fund that enables the County to handle unexpected events. Appendix E, *Cash Position Assuming Rate Increases and the Prepayment of \$10.3 Million*, shows the balances and projected balances of the cash accounts with the assumption that rate increases are adopted. As of the December 31, 2015 Cash Flow report, the Fund will have an estimated \$189.8 million in cash at the end of Fiscal Year 2015-2016, of which \$100.6 million is currently

estimated to be unrestricted. These restricted and designated cash accounts include:

1. **Emergency Reserve Fund** (Unrestricted) – Beginning in Fiscal Year 2009-2010, \$20 million was set aside and designated by the Board of Supervisors as an Emergency Reserve Fund. The fund is for unexpected events affecting the ongoing operations of the sewer system.
2. **Operating Reserve Fund** (Partially Restricted) – Although only required by the various debt instruments to maintain a 30 days balance of anticipated operating expenses, the County maintains 90 days of anticipated operating expenses in this fund. By the end of Fiscal Year 2015-2016, these reserves are projected to be \$21 million. Because only 30 days of reserves are required, the remaining 60 days of reserve of cash is unrestricted.
3. **Debt Service Reserve Fund** (Restricted) – This restricted fund is used to set aside cash for sewer debt service payments. On a monthly basis, the County transfers one-twelfth of budgeted annual debt service into this reserve account to ensure cash is available for the annual debt service payments. These funds will be applied to the final debt service payments for the respective debt. By the end of Fiscal Year 2015-2016, these debt reserves are projected to be \$37.2 million.
4. **Bond Proceeds** (Restricted) – This restricted fund is used to restrict the bond proceeds received until the funds are spent for the various bond projects. By the end of the Fiscal Year 2015-2016, this reserve is projected to be \$11 million.

Use of Unrestricted Cash Balances – At the March 9, 2010 Board of Supervisors meeting, the Board adopted a series of rate increases and, simultaneously, restricted any unrestricted cash balances to be used for reduction of debt or for rebate of sewer fees. To this end, the County plans to retire certain debt as soon as outstanding debt instruments are callable. If rate increases are approved, the County will call and prepay \$10.3 million of WIFA loans as they become callable in Fiscal Year 2016-2017. The County continues to issue COPs which are used to fund capital improvement projects for the sewer system. Unrestricted cash balances are used to repay this debt with accelerated payment schedules between three and six years. Such actions significantly reduce future debt payments.

DEBT SERVICE RATIO

Rating Agency Debt Service Ratio – Net Operating Revenue to Debt Service:

Net operating revenues are the regular, recurring revenues generated by operating the sewer system that remain after paying for sewer system operating expenses. Net operating revenues must be sufficient to do two things: (1) to cover the required debt service payments and required reserves and (2) generate a sufficient margin necessary to enable the County to pay non-operating costs and maintain additional reserves for unforeseen events.

Bond rating agencies use a basic ratio of net operating revenues to debt service to evaluate the financial health of governmental sewer operations. A ratio of 1 indicates that net operating revenues match debt service payments – net operating revenues are 100 percent of debt service payments. A ratio of less than 1, for example, 0.9, indicates that net revenues are less than, or in this example 90 percent, of debt service payments. A ratio of greater than 1, for example, 1.3, indicates that net revenues are larger than, or in this example 130 percent of debt service payments.

To make sewer revenue debt that pays lower interest rates attractive to investors, bond rating agencies have historically expected to see governmental sewer operators set rates high enough to maintain a rating agency debt service ratio of 1.3. At this level, not only will the government be able to cover its debt service payments, but there will also be sufficient unrestricted financial reserves generated to cover non-operating costs and unforeseen future events.

Historically, Pima County has been committed to regularly setting rates to maintain a rating agency debt service ratio of 1.3. The Regional Wastewater Reclamation Advisory Committee (RWRAC) formally stated this goal in a letter to Pima County's Board of Supervisors. By regularly meeting this goal, Pima County's sewer revenue debt has good ratings and Pima County has been able to readily sell debt for its capital improvement program at low interest rates. Pima County and its RWRAC also recognize that there may be the occasional need to modify this goal for short periods of time when it is in the best interest of the rate payer.

Recently, Pima County has not needed to use its unrestricted financial reserves to pay for unforeseen events and a significant balance has accumulated (see Cash Balances section). Pima County recommends two related actions in this financial plan: 1) prepaying \$10.3 million of sewer revenue debt discussed in the Debt Service Payments section and 2) temporarily setting rates to achieve a debt service ratio slightly less than 1.3, while carefully monitoring unrestricted cash balances to ensure they stay at reasonable levels.

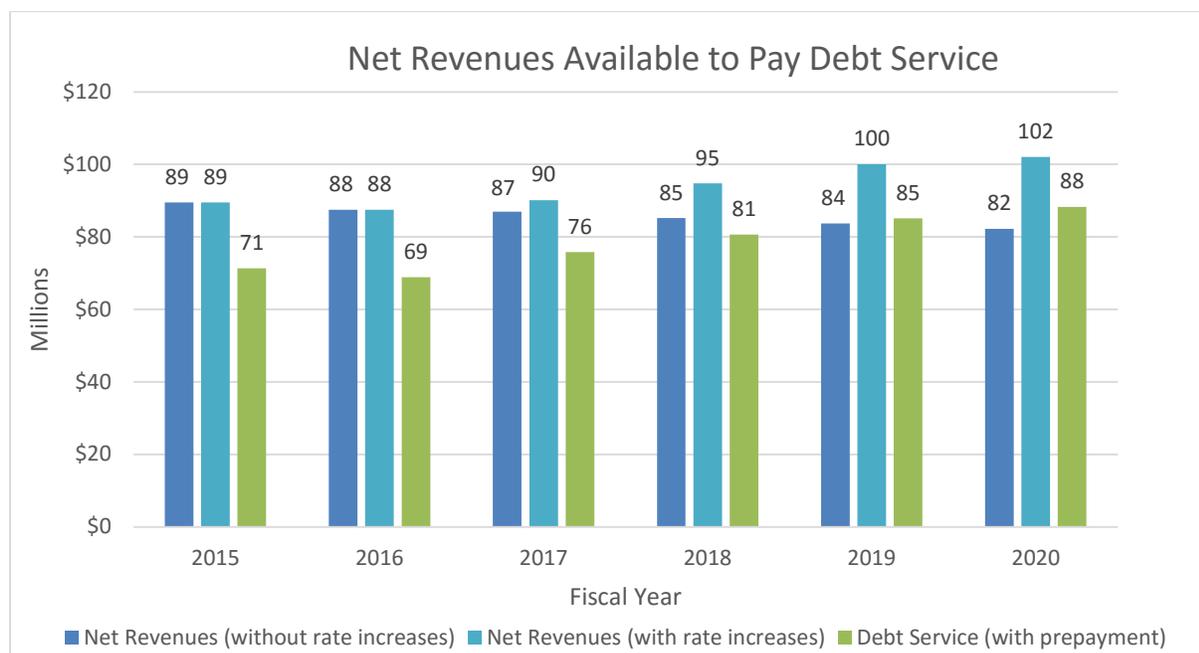
Temporarily setting rates to achieve a rating agency debt service ratio less than 1.3 does not eliminate the need for future rate increases. While rate increases are still necessary, rates can be increased by smaller amounts, lessening the immediate impact on Pima County's rate payers. Rather than an eight percent increase necessary on July 1, 2016 (the start of Fiscal Year 2016-

2017), followed by several annual three percent increases that would be necessary to maintain a rating agency debt service ratio of 1.3, Pima County could increase rates four percent on January 1, 2017, followed by two annual four percent increases. This would keep the rating agency debt service ratio near 1.2 and reduce the County’s unrestricted reserves in a predictable, reasonable, and careful manner.

It is important to note that Pima County has two additional debt service ratios. These two ratios (the senior debt service ratio and the junior debt service ratio) are calculated differently, and are not used as indicators of financial health. They should not be used for financial planning in the same way the rating agency debt service ratio is used. These two ratios are used by external parties to make legal determinations about whether Pima County is violating the contractual provisions of its debt. By setting rates to keep the bond rating agency debt service ratio at or near 1.2, Pima County will not violate the contractual provisions of its debt. Additional details about these two contractual debt service ratios can be found in Appendix F, *Debt Service Ratio Calculations*.

Appendices B (assuming no rate increases) and C (assuming rate increases) provide more detail of the projected revenues, expenses, net operating revenues, and debt service ratios of the system. Figure 6 shows the relationship between projected net revenues available for debt service with and without rate increases and the projected debt service through Fiscal Year 2019-2020, illustrating that, with rate increases, net revenues would be sufficient to cover the amount needed for debt service through Fiscal Year 2019-2020, while maintaining a rating agency debt service ratio near 1.2.

Figure 6: Net Revenues (with Rate Increases) Available to Pay Debt Service



As seen in Figure 6, if no rate increases are adopted, the projected net revenues will not be sufficient to pay for debt service beginning in Fiscal Year 2018-2019. A delay in raising rates will put the County's sewer system fund in a financially unsustainable position within three years.

EXPENDITURE LIMITATION

Expenditure Limitation Impact to Wastewater Projects:

Due to the expenditure limitation restrictions in Article IX, Section 20, of the Arizona Constitution, the County is not able to use available cash to fund capital improvements on a pay-as-you-go basis. The expenditure limitation restricts the use of local revenues which consist of primary property taxes, impact fees, connection fees, including all fees charged for sewer services, and any other fees charged for County services. The County may not exceed the expenditure limit even if the County has cash available to spend.

Although the County cannot use the cash to fund projects on a pay-as-you-go basis, the County can use the cash to pay debt service without impacting the expenditure limit. In order to comply with the expenditure limitation, the County must fund sewer capital projects with borrowed funds, and use available unrestricted cash to pay the debt service on such funds. The use of the COPs described above enables the County to finance sewer improvements using relatively short term financing at very favorable rates. Such financing technique allows the County to essentially have a modified pay-as-you-go approach to financing sewer improvements, whereby available cash is used to fund projects with minimal interest payments.

BOND RATINGS

Bond Rating Agencies:

In May 2016, Fitch Ratings reaffirmed the County's sewer debt rating of AA for the Senior Debt and AA- for the Junior Debt. In addition, in May 2016, Standard and Poor's reaffirmed the County's sewer debt rating of AA for the Senior Debt and upgraded the rating from AA- to AA for the Junior Debt. The issued reports explained the analysis of Pima County's financial condition for its sewer debt. The bond ratings reflect the rating agencies evaluation of the financial stability of the County and its ability to repay debt. As ratings increase, the interest rates offered by lenders decrease, making the overall debt cost to the County lower.

Both reports emphasized the historic willingness of the County to increase rates to provide funds needed for operations and debt service payments and pointed to the County's strong liquidity resulting from the cash held in reserves and the additional cash generated from revenue operations.

For the \$150 million of debt the County will be issuing in the next four years, a decrease in the ratings level could occur if revenues are not increased. This would likely cause the County to pay at least 15 to 20 basis points (0.15 percent to 0.20 percent) higher interest rate, which would result in about \$1.5 million to \$2.5 million of additional interest over the terms of the debt.

RECOMMENDED REVENUE INCREASES

Revenue Increases:

Pima County has not raised sewer rates since July 1, 2013, even though revenues have been declining, debt service is increasing, and the Department anticipates another \$155 million of capital improvement projects over the next four years. Based on the information presented in the preceding sections, Pima County's Finance and Risk Management Department recommends the adoption of a series of revenue increases, with the first increase of four percent implemented as early as possible in Calendar Year 2017 and similar revenue increases of four percent or more on January 1, 2018 and January 1, 2019. The implementation of these revenue increases will ensure the County generates sufficient revenues to meet all operating and maintenance expenses, debt service payments, and required reserves.

The Calendar Year 2017 revenue increase is recommended to begin one half year later and is half the size of the eight percent revenue increase that would have been necessary to continue the County's goal of maintaining the Fund's rating agency debt service ratio at 1.3 as discussed in the Debt Service Ratio section. To delay the starting date and to reduce the size of the revenue increase, the County is recommending the use the Fund's unrestricted cash balance to cover a portion of the Fund's costs and pay off a portion of the Fund's outstanding debt prior to its maturity. This basically requires the Department to function with a structural deficit until future revenue increases are implemented.

The use of the Fund's unrestricted cash balance to cover a portion of the Fund's costs helps delay and reduce the need for revenue increases for a short period of time, so current system users do not have to pay for 100 percent of the costs of the system. In addition, paying off a portion of the Fund's outstanding debt prior to its maturity reduces the need for revenue increases because future interest costs will be lower and less revenue will need to be generated.

Because Pima County is spending down some of the Fund's unrestricted cash to delay and reduce needed revenue increases, Finance and Risk Management will carefully monitor the financial health of the Fund. Finance and Risk Management recommends the adoption of a series of revenue increases, with the first increase of four percent implemented as early as possible in Calendar Year 2017, with similar revenue increases of four percent or more on January 1, 2018 and January 1, 2019 to ensure the County generates sufficient revenues to meet all operating and maintenance expenses, debt service payments, and required reserves.

ADVISORY COMMITTEE RECOMMENDATION

The Regional Wastewater Reclamation Advisory Committee Recommendation:

During fiscal year 2015-2016, the Finance and Risk Management Department met regularly with the Finance Subcommittee of the Regional Wastewater Reclamation Advisory Committee. The Finance Subcommittee moved and approved the following recommendation at its April 15, 2016 meeting.

We support the findings and recommendations outlined in the 2016 Financial Plan, which identifies current and future revenue shortfalls for the Department. We recognize the urgency for a revenue increase as early in calendar year 2017 as possible. We further recognize a Rate Study is underway, which is necessary to equitably allocate the cost of providing service. Therefore, we recommend an initial 4% revenue increase to take effect as early as possible in calendar year 2017. The Committee also recommends revenue increases for fiscal year 2017/2018 and beyond, consider the methodology and findings of the Rate Study and future financial plans.

The full Regional Wastewater Reclamation Advisory Committee moved and approved this recommendation at its April 21, 2016 regular meeting.

Members of the Advisory Committee requested that this report include a history of rate increases and the dollar impact of such increases. Appendix G, *Summary of Rate Increases and Their Impact, Fiscal Years 2004 through 2016 and Proposed for Fiscal Year 2017 through 2020* contains a history of rates since Fiscal Year 2003-2004 and includes the impact of the recommended four percent revenue increases in Fiscal Years 2016-2017, 2017-2018, and 2018-2019.

RECOMMENDATIONS

Recommendations:

Pima County is recommending:

1. The issuance of \$20 million of certificates of participation (COPs) in Fiscal Year 2015-2016 to fund current capital improvement projects.
2. The issuance of \$150 million of new sewer revenue obligations to fund future capital improvement projects as follows:
 - a. \$45 million in Fiscal Year 2016-2017,
 - b. \$45 million in Fiscal Year 2017-2018,
 - c. \$30 million in Fiscal Year 2018-2019, and
 - d. \$30 million in Fiscal Year 2019-2020.
3. The early repayment of \$10.3 million of WIFA Loans as those debts become callable in Fiscal Year 2016-2017.
4. The adoption of a series of revenue increases, with the first increase of four percent implemented as early as possible in Calendar Year 2017, with similar revenue increases of four percent or more on January 1, 2018 and January 1, 2019, to ensure the County generates sufficient revenues to meet all operating and maintenance expenses, debt service payments, and required reserves.

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Appendix G – Summary of Rate Increases and Their Impact, Fiscal Years 2004 through 2016 and Proposed for Fiscal Year 2017 through 2020.

Appendix B

Five Year Financial Projections Assuming No Rate Increases

	Actuals	Adopted Budget with Rate Increase	Budget Amount with No Rate Increase	Forecasted				
	2014-15	2015-16	2015-16	2015-16	2016-17	2017-18	2018-19	2019-20
System Revenues								
Volumetric User Fee	118,042,427	125,619,694	122,855,446	116,985,509	116,329,322	115,802,590	115,337,944	114,887,282
Fixed User Administrative Fee	40,928,930	42,768,370	41,827,257	41,323,853	41,845,277	42,419,353	43,023,574	43,641,005
Sanitation Fees	299,639	310,000	310,000	310,000	310,000	310,000	310,000	310,000
Total Sewer Utility Service	159,270,996	168,698,064	164,992,703	158,619,361	158,484,599	158,531,942	158,671,518	158,838,288
Sewer Connection Revenue	13,143,881	13,548,975	13,250,831	11,427,897	11,572,094	11,730,852	11,897,946	12,068,693
Interest	874,522	781,000	781,000	781,000	781,000	562,349	488,459	406,626
Other Income	688,137	232,250	232,250	599,280	553,670	553,670	553,670	553,670
Total Revenues	173,977,536	183,260,289	179,256,784	171,427,538	171,391,364	171,378,813	171,611,593	171,867,277
Operations and Maintenance Costs	84,492,409	84,549,649	84,549,649	83,900,000	84,400,000	86,088,000	87,809,760	89,565,955
Net Revenues	89,485,127	98,710,640	94,707,135	87,527,538	86,991,364	85,290,813	83,801,833	82,301,322
Existing Debt Service - Senior Debt		17,653,379	17,653,379	17,653,379	17,737,729	17,830,004	17,952,761	18,073,423
Existing Debt Service - Subordinate Debt		51,195,225	51,195,225	51,195,225	58,159,125	58,161,350	58,163,225	58,155,600
Total Existing Debt Service Payments	71,332,392	68,848,604	68,848,604	68,848,604	75,896,854	75,991,354	76,115,986	76,229,023
Proposed Debt Service	-	1,237,500	1,237,500	-	1,237,500	6,092,397	10,450,291	13,566,363
Total Debt Service Payments	71,332,392	70,086,104	70,086,104	68,848,604	77,134,354	82,083,751	86,566,277	89,795,386
Debt Service Coverage (DSC) = Net Revenues / Total Debt Service Payments								
DSC - Bond Rating Agency	1.25	1.41	1.35	1.27	1.13	1.04	0.97	0.92
DSC = Net Revenues / Debt Service Payments on Senior Lien Debt								
DSC - Senior Debt Covenants (bonds)		5.59	5.36	4.96	4.90	4.78	4.67	4.55
DSC = (Net Revenues + Beginning Unrestricted Cash) / Total Debt Service Payments								
DSC - Subordinate Debt (obligations and loans)		2.93	2.81	2.88	2.43	2.03	1.62	1.24
Net Revenues after Debt Service Payments		28,600,000	24,600,000	18,700,000	9,900,000	3,200,000	(2,800,000)	(7,500,000)
Net Operating Transfers Out								
COPs 2013		(5,000,000)	(5,000,000)	(5,000,000)	-	-	-	-
COPs 2015		(17,200,000)	(17,200,000)	(17,000,000)	(16,500,000)	(16,000,000)	(12,300,000)	-
COPs 2016		-	-	-	(7,350,000)	(7,100,000)	(6,700,000)	-
Debt Service Reserve (Obligations) Transfer		(2,700,000)	(2,700,000)	-	(2,400,000)	(2,400,000)	(1,600,000)	(1,600,000)
Other Operating Transfers Out		(1,100,000)	(1,100,000)	(1,100,000)	(700,000)	(700,000)	(700,000)	(250,000)
Prepayment of 2004 and 2007 Bonds		-	-	-	-	-	-	-
Net Changes in Assets and Liabilities		(3,300,000)	(3,300,000)	(2,200,000)	(2,950,000)	(1,500,000)	(1,400,000)	(1,200,000)
Subtotal		(700,000)	(4,700,000)	(6,600,000)	(20,000,000)	(24,500,000)	(25,500,000)	(10,550,000)
Beginning Unrestricted Cash Balance		110,700,000	110,700,000	110,700,000	100,500,000	81,550,000	56,150,000	29,050,000
Change in Restrictions of Cash		(3,600,000)	(3,600,000)	(3,600,000)	1,050,000	(900,000)	(1,600,000)	(1,300,000)
Ending Unrestricted Cash Balance		106,400,000	102,400,000	100,500,000	81,550,000	56,150,000	29,050,000	17,200,000
CIP Projections	52,005,269	47,507,510	47,507,510	44,050,000	47,350,000	45,270,000	31,780,000	30,850,000
Sewer Revenue debt		45,000,000	45,000,000		45,000,000	45,000,000	30,000,000	30,000,000
Certificates of Participation	60,000,000			20,000,000				

Appendix C

Five Year Financial Projections Assuming Three 4 Percent Rate Increases

	Actuals	Adopted Budget with Rate Increase	Budget Amount with No Rate Increase	Forecasted				
	2014-15	2015-16	2015-16	2015-16	2016-17	2017-18	2018-19	2019-20
System Revenues:								
Volumetric User Fee	118,042,427	125,619,694	122,855,446	116,985,509	118,655,909	122,843,387	127,244,511	129,282,273
Fixed User Administrative Fee	40,928,930	42,768,370	41,827,257	41,323,853	42,682,183	44,998,449	47,464,983	49,109,076
Sanitation Fees	299,639	310,000	310,000	310,000	310,000	310,000	310,000	310,000
Total Sewer Utility Service	159,270,996	168,698,064	164,992,703	158,619,361	161,648,091	168,151,837	175,019,495	178,701,349
Sewer Connection Revenue	13,143,881	13,548,975	13,250,831	11,427,897	11,572,094	11,730,852	11,897,946	12,068,693
Interest	874,522	781,000	781,000	781,000	781,000	445,979	384,389	315,066
Other Income	688,137	232,250	232,250	599,280	553,670	553,670	553,670	553,670
Total Revenues	173,977,536	183,260,289	179,256,784	171,427,538	174,554,856	180,882,337	187,855,500	191,638,779
Operations and Maintenance Costs	84,492,409	84,549,649	84,549,649	83,900,000	84,400,000	86,088,000	87,809,760	89,565,955
Net Revenues	89,485,127	98,710,640	94,707,135	87,527,538	90,154,856	94,794,337	100,045,740	102,072,824
Existing Debt Service - Senior Debt		17,653,379	17,653,379	17,653,379	16,418,809	16,340,532	16,463,289	16,583,951
Existing Debt Service - Subordinate Debt		51,195,225	51,195,225	51,195,225	58,159,125	58,161,350	58,163,225	58,155,600
Total Existing Debt Service Payments	71,332,392	68,848,604	68,848,604	68,848,604	74,577,934	74,501,882	74,626,514	74,739,551
Proposed Debt Service	-	1,237,500	1,237,500	-	1,237,500	6,092,397	10,450,291	13,566,363
Total Debt Service Payments	71,332,392	70,086,104	70,086,104	68,848,604	75,815,434	80,594,279	85,076,805	88,305,914
Debt Service Coverage (DSC) = Net Revenues / Total Debt Service Payments	1.25	1.41	1.35	1.27	1.19	1.18	1.18	1.16
DSC - Bond Rating Agency								
DSC = Net Revenues / Debt Service Payments on Senior Lien Debt		5.59	5.36	4.96	5.49	5.80	6.08	6.15
DSC - Senior Debt Covenants (bonds)								
DSC = (Net Revenues + Beginning Unrestricted Cash) / Total Debt Service Payments		2.93	2.81	2.88	2.52	2.10	1.86	1.70
DSC - Subordinate Debt (obligations and loans)								
Net Revenues after Debt Service Payments		28,600,000	24,600,000	18,700,000	14,300,000	14,200,000	15,000,000	13,800,000
Net Operating Transfers Out								
COPs 2013		(5,000,000)	(5,000,000)	(5,000,000)	-	-	-	-
COPs 2015		(17,200,000)	(17,200,000)	(17,000,000)	(16,500,000)	(16,000,000)	(12,300,000)	-
COPs 2016		-	-	-	(7,350,000)	(7,100,000)	(6,700,000)	-
Debt Service Reserve (Obligations) Transfer		(2,700,000)	(2,700,000)	-	(2,400,000)	(2,400,000)	(1,600,000)	(1,600,000)
Other Operating Transfers Out		(1,100,000)	(1,100,000)	(1,100,000)	(700,000)	(700,000)	(700,000)	(250,000)
Prepayment of 2004 and 2007 Bonds		-	-	-	(10,300,000)	-	-	-
Net Changes in Assets and Liabilities		(3,300,000)	(3,300,000)	(2,200,000)	(5,014,000)	(2,660,000)	(2,540,000)	(1,870,000)
Subtotal		(700,000)	(4,700,000)	(6,600,000)	(27,964,000)	(14,660,000)	(8,840,000)	10,080,000
Beginning Unrestricted Cash Balance		110,700,000	110,700,000	110,700,000	100,600,000	74,070,000	58,500,000	48,080,000
Change in Restrictions of Cash		(3,600,000)	(3,600,000)	(3,500,000)	1,434,000	(910,000)	(1,580,000)	(1,330,000)
Ending Unrestricted Cash Balance		106,400,000	102,400,000	100,600,000	74,070,000	58,500,000	48,080,000	56,830,000
CIP Projections	52,005,269	47,507,510	47,507,510	44,050,000	47,350,000	45,270,000	31,780,000	30,850,000
Sewer Revenue debt		45,000,000	45,000,000		45,000,000	45,000,000	30,000,000	30,000,000
Certificates of Participation	60,000,000			20,000,000				

Five Year Summary of Planned Capital Improvement Projects

Project Name	Fiscal Year 2015/2016	Fiscal Year 2016/2017	Fiscal Year 2017/2018	Fiscal Year 2018/2019	Fiscal Year 2019/2020	Total
S.12th Ave to S.2nd Ave and W.22nd St to W.36th St	\$ 102,040	\$ -	\$ -	\$ -	\$ -	\$ 102,040
Conveyance Rehab - 12th-4th-36th-Ajo	169,368	-	-	-	-	169,368
22nd St Alvernon Way to Swan Rd Augmentation	3,173,056	225,000	-	-	-	3,398,056
22nd to Congress Osborne to Toole	129,991	-	-	-	-	129,991
ADOT - W Ajo Way & I-19 Sewer Modifications	123,779	44,492	-	-	-	168,271
Old Nogales Interc. Aug - New Aerospace Corr Sewer	919,594	2,331,680	5,000,000	5,000,000	5,000,000	18,251,274
State Prison Pump Station Rehabilitation FY13/14	147,943	636,689	-	-	-	784,632
New Influent Emergency Overflow Basin - Avra Valley WRF	133,145	700,000	550,000	-	-	1,383,145
Avra Valley WRF Valve & Gate Motorized Oper. & Scada	130,000	-	-	-	-	130,000
Avra Valley WRF SCADA & Automation Impr FY 17/18	-	-	-	360,000	254,000	614,000
COTDOT Broadway Blvd Euclid-Campbell Ave Sewer Utility	-	-	-	110,900	4,100	115,000
Black Wash Augmentation	73,500	893,000	-	-	-	966,500
Broadway Blvd. Augmentation - N. Chantilly to N. Crayc	85,000	-	573,000	-	-	658,000
Corona De Tucson WRF Influent Splitter Box Improvements	200,000	-	-	-	-	200,000
Corona de Tucson WWTF UV Disinfection & Filtration	809,697	293,867	-	-	-	1,103,564
Continental Ranch Pump Station - Second Force Main	-	-	-	610,000	7,301,000	7,911,000
Cardenal Pump Station	24,650	-	-	-	-	24,650
System-Wide Conveyance Rehabilitation Program	-	500,000	6,500,000	11,989,000	12,510,000	31,499,000
Conveyance Rehabilitation Program	2,957	-	-	-	-	2,957
CRRPS Facility Modifications	2,220,807	2,802,665	-	-	-	5,023,472
Corona de Tucson WRF SCADA & Operations Upgrade	358,681	-	-	-	-	358,681
Conveyance SCADA System Upgrade Richey Rd to Ina Rd	1,164,846	100,800	-	-	-	1,265,646
Dodge Blvd Security Improvements	302,490	-	-	-	-	302,490
Silverbell Pump Station Rehabilitation	624,300	-	-	-	-	624,300
City of Tucson DOT Downtown Links Phase 2&3	-	240,000	-	-	-	240,000
Emergency Overflow Basin #4 Creation	725,000	100,000	-	-	-	825,000
SCADA Emergency Operations Center	-	-	630,000	-	-	630,000
PC Fairgrounds WRF Connection to Existing Conveyance	-	50,000	1,100,000	1,725,000	2,003,000	4,878,000
COTDOT Grant Rd Corridor Improvement Sewer Utility	-	32,000	154,000	-	-	186,000
Green Valley WRF SCADA & Automation Improvements	781,318	-	-	-	-	781,318
Green Valley WRF - Future Development Plan FY13/14	300,000	1,331,261	-	-	-	1,631,261
Green Valley Process Improvements	460,000	-	-	-	-	460,000
Houghton Rd Broadway Blvd Intersection Improve COTDOT	-	154,000	-	-	-	154,000
Helen St to Elm St 6th Ave to 1st Ave	502,819	-	-	-	-	502,819
Hanson Software Upgrade to Version 8	189,780	-	-	-	-	189,780
Two Additional Centrifuge Sludge Screens - Tres Rios WRF	-	925,000	-	-	-	925,000
ADOT - Ina Rd & I-10 Sewer Modifications	175,000	1,000,000	682,194	-	-	1,857,194
Kostka Ave Michigan to Pennsylvania	49,972	-	-	-	-	49,972
La Cholla Blvd & Calle Pacifica to Speedway Blvd & Silv	2,201	-	-	-	-	2,201

Appendix D

Five Year Summary of Planned Capital Improvement Projects

Project Name	Fiscal Year 2015/2016	Fiscal Year 2016/2017	Fiscal Year 2017/2018	Fiscal Year 2018/2019	Fiscal Year 2019/2020	Total
La Tierra Pump Station Conversion to Gravity Sewer	748,462	-	-	-	-	748,462
Sewer Utility Minor Modification Projects	300,000	-	-	-	-	300,000
Sewer Utility Minor Modification Projects 2016/2017	-	100,000	-	-	-	100,000
Sewer Utility Minor Modification Projects 2017/18	-	-	100,000	-	-	100,000
Sewer Utility Minor Modification Projects 2019/20	-	-	-	-	100,000	100,000
Sewer Manhole Rehabilitation #6	1,599,000	1,000	-	-	-	1,600,000
Sewer Manhole Rehabilitation # 7	-	1,599,000	1,000	-	-	1,600,000
Sewer Manhole Rehabilitation # 8	-	-	1,599,000	1,000	-	1,600,000
Minor Rehabilitation Projects FY15/16	9,995,000	5,000	-	-	-	10,000,000
Minor Rehabilitation Projects FY 16/17	-	9,995,000	5,000	-	-	10,000,000
Minor Rehabilitation Projects FY 17/18	-	-	9,995,000	5,000	-	10,000,000
North Rillito Interceptor Rehabilitation	6,361,234	6,849,730	3,000,000	-	-	16,210,964
Odor and Corrosion Control @ Tanque Verde Siphon	-	-	80,000	521,000	-	601,000
North Rillito Interceptor Relief Sewer	1,230,899	-	-	-	-	1,230,899
Pantano Grade Control Structure	-	-	754,000	-	-	754,000
Pantano Interceptor Chemical Dosing Unit at Houghton Rd	364,814	-	-	-	-	364,814
Prince Rd & I-10 ADOT Sewer Modifications	150,000	-	-	-	-	150,000
Principal Pump Station	-	119,704	393,861	-	-	513,565
Road Embankment Widening, Roger Rd WRF Clean Closure	395,716	-	-	-	-	395,716
ADOT W Ruthrauff Rd & Interstate 10 Sewer Modifications	50,000	100,000	1,000,000	725,000	-	1,875,000
Ina Rd WPCF Class A Biosolids Improvements	37,986	-	-	-	-	37,986
Biogas Sales and Utilization	403,492	-	-	-	-	403,492
Side Stream Treatment	74,526	-	-	-	-	74,526
Roger Rd Treatment Plant Entry Post-Closure Implement	43,241	-	-	-	-	43,241
Roger Rd WRF Clean Closure	300,530	-	-	-	-	300,530
Addition to RWRD Central Laboratory	402,161	-	-	-	-	402,161
Sahuara Bio-Filter	7,072	-	-	-	-	7,072
Speedway Bld Area Capacity Augmentation Alignment Study	-	-	171,000	3,084,000	1,500,000	4,755,000
Sabino Creek Pump Station	1,155,375	888,286	-	-	-	2,043,661
St Mary's Rd & N Cuesta Ave to Speedway Blvd Silverbell	33,704	-	-	-	-	33,704
SE Interceptor Augmentation	1,090,329	10,233,418	6,462,824	-	-	17,786,571
Safe Flush Tanks for Low-Flow Sewers	-	-	-	-	175,000	175,000
SE Houghton Area Recharge Project	100,000	-	1,373,918	1,373,918	-	2,847,836
Tres Rios Sludge Holding Tank	140,000	1,760,000	-	-	-	1,900,000
Ina Rd Existing Plant SCADA Upgrades	380,012	-	-	-	-	380,012
SCADA WAN Infrastructure Upgrade	311,541	1,100,000	428,000	-	-	1,839,541
Silverado Pump Station Rehabilitation	-	-	-	514,000	-	514,000
SRF Parking, Paving & Drainage Improvements	300,000	-	-	-	-	300,000
Sewer Utility Modification Program	-	-	-	3,000	2,000	5,000
System Wide Treatment Rehabilitation & Enhancement	-	1,225,000	3,375,000	3,300,000	-	7,900,000
Tangerine Rd Force Main Relocation	1,806,869	-	-	-	-	1,806,869
Tres Rios WRF Existing Infrastructure Upgrades Project	1,368,131	1,000,000	1,345,869	2,000,750	2,000,000	7,714,750
Total Trihalomethane Control Through Centrate Dosing	655,000	-	-	-	-	655,000
COTDOT 22nd St I-10 to Tucson Blvd Sewer Utility	-	15,000	-	450,000	-	465,000
Valencia to Los Reales Camino de la Tierra to Cardinal	163,951	-	-	-	-	163,951
Total Planned Expenses	44,050,979	47,351,592	45,273,666	31,772,568	30,849,100	199,297,905

Appendix E

Cash Position Assuming Rate Increases and the Prepayment of \$10.3 million

	2015-16	2016-17	2017-18	2018-19	2019-20
Estimated Cash Balance at End of Fiscal Year	189,800,000	162,700,000	149,900,000	138,800,000	148,800,000
Less Reserves:					
O&M - Operating Reserve	21,000,000	21,000,000	21,500,000	22,000,000	22,000,000
Debt Service Reserve	37,200,000	38,800,000	41,600,000	43,400,000	45,300,000
Construction - Bond Proceeds	11,000,000	8,830,000	8,300,000	5,320,000	4,670,000
Emergency Reserve	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000
Projected Ending Cash Balance after Reserve Requirements are met	100,600,000	74,070,000	58,500,000	48,080,000	56,830,000

Appendix F

Debt Service Ratio Calculations

The County has historically maintained the goal of a rating agency debt service ratio of at least 1.3 as discussed in the Debt Service Ratio section. This ratio is used by the rating agencies and serves as a good tool to use for financial planning.

In addition to the rating agency debt service ratio, Pima County's sewer revenue debt has two additional ratios that are mandated by the debt covenants. These debt covenant ratios are used by external parties to determine Pima County's compliance with contractual obligations related to its debt. While these debt covenant ratios should be considered when setting interest rates, they should not be used as a financial planning tool in the same way that the rating agency debt service ratio is used. By setting rates to maintain a rating agency debt service ratio at or near 1.3, the County will also comply with these debt covenant ratios.

The first debt covenant ratio is the Senior Debt Service Ratio. The first layer of debt is Senior Debt. Senior Debt consists of the sewer revenue bonds and Water Infrastructure Finance Authority of Arizona (WIFA) loans issued before the County began issuing the sewer revenue obligations in Fiscal Year 2009-2010. Because the Senior Debt holders have a priority claim on the net revenues of the sewer system, the Senior Debt Service Ratio only uses the senior debt service in its calculation.

The second debt covenant ratio is the Junior Debt Service Ratio. The second layer of debt is Junior Debt. As implied by those terms, Junior Debt is junior in priority to Senior Debt. Moreover, the pledge of revenues for Senior Debt must be paid before payments are made for Junior Debt. Because the Senior Debt must be paid first, the Junior Debt Service Ratio uses both the senior debt service and the junior debt service in its calculation.

Including the rating agency debt service ratio, the three debt service ratio calculations are as follows:

- 1) **Rating Agency Debt Service** - The Bond Rating Agencies calculate the debt service ratio using the excess of net revenues over the required debt service. The rating agencies require a 1.3x debt ratio be maintained. A debt service ratio lower than 1.3 would likely cause rating agencies to downgrade future sewer debt from its current rating. The impact of a downgrade would be additional interest costs for future debt. Because the majority of the needed debt for RWRD construction has already been issued, the impact, though negative, would not be significant to the overall outstanding debt service. This is the most conservative of the three calculations.

$$\text{Rating Agency Debt Service Ratio} = \frac{\text{Net Operating Revenues}}{\text{Senior and Junior Debt Service Payments}}$$

- 2) **Senior Debt Service Ratio** - The Senior Debt Service Ratio is calculated by taking net operating revenues over the amount of Senior Debt. Because the balance of the outstanding Senior Debt is decreasing each year, the debt service ratio for the Senior Debt is improving each year. This is because the net revenues are many times greater than the ever declining debt service payments for the Senior Debt, in any given year. The County is required to maintain a 1.2x Senior Debt Service Ratio. Failure to maintain a 1.2x triggers a default and provides a mechanism to force the County to increase rates.

$$\text{Senior Debt Service Ratio} = \frac{\text{Net Operating Revenues}}{\text{Senior Debt Service Payments}}$$

- 3) **Junior Debt Service Ratio** – The Junior Debt Service Ratio is calculated by taking the net operating revenues plus unrestricted cash balance from the beginning of the fiscal year, over the amount of Senior and Junior Debt. The County is required to maintain a 1.2x Junior Debt Service Ratio. Failure to maintain a 1.2x triggers a default and provides a mechanism to force the County to increase rates.

$$\text{Junior Debt Service Ratio} = \frac{\text{Net Operating Revenues} + \text{Unrestricted Cash Balance}}{\text{Senior and Junior Debt Service Payments}}$$

The table below shows the debt service ratios for two scenarios (with and without rate increases).

Assuming Rate Increases

Debt Service Ratios for:	FY 2017	FY 2018	FY 2019	FY 2020
Bond Rating Agencies	1.19	1.18	1.18	1.16
Senior Debt Covenant of 1.2x	5.49	5.80	6.08	6.15
Junior Debt Covenant of 1.2x	2.52	2.10	1.86	1.70

Assuming No Rate Increases

Debt Service Ratios for:	FY 2017	FY 2018	FY 2019	FY 2020
Bond Rating Agencies	1.13	1.04	0.97	0.92
Senior Debt Covenant of 1.2x	4.90	4.78	4.67	4.55
Junior Debt Covenant of 1.2x	2.43	2.03	1.62	1.24

Appendix G

Summary of Rate Increases and Their Impact, Fiscal Years 2004 through 2016 and Proposed for Fiscal Year 2017 through 2020

Fiscal Year	Percent Rate Increase	Dollar Impact on Average 8cccf Bill	
2004	-	-	
2005	4.00	0.56	
2006	8.00	1.16	
2007 (a)	12.00	1.89	
2008 (b)	15.00	2.64	
2009 (c)	22.25	5.14	
2010 (d)	25.50	3.68	
2011	10.00	2.57	
2012	10.00	2.80	
2013	10.00	3.04	
2014	10.00	3.33	
2015	-	-	
2016	-	-	
2017	4.00	1.63	Proposed
2018	4.00	1.70	
2019	4.00	1.77	
2020	-	-	

- (a) The 12% rate increase represents two rate increases that occurred during the fiscal year. The first for 6% became effective on August 11, 2006, and the second for 6% became effective on January 1, 2007.
- (b) The 15% rate increase represents two rate increases that occurred during the fiscal year. The first for 6% became effective on July 1, 2007, and the second for 9% became effective on January 1, 2008.
- (c) The 22.25% rate increase represents two rate increases that occurred during the fiscal year. The first for 9.5% became effective on July 1, 2008, and the second for 12.75% became effective on March 20, 2009.
- (d) The 25.50% rate increase represents two rate increases that occurred during the fiscal year. The first for 12.75% became effective on July 1, 2009, and the second for 12.75% became effective on January 1, 2010.