

2016 Ditch Maintenance Fee Rate Study

DIXON



RESOURCE
CONSERVATION DISTRICT

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1 EXECUTIVE SUMMARY

This report summarizes the analysis of the Dixon Resource Conservation District's (District's) Ditch Maintenance Fee (Drainage Fee) completed in accordance with California law and Proposition 218 (Prop 218). The analysis represents a collaborative effort within the District's Staff and review from partners and consultants. Staff prepared the financial plan and cost of service analysis using the recent five-year financial projections covering 2017-2021 and a review of the prior period 2011-2015. The District's current Fiscal Year (FY) is 2016, which began July 1, 2015 and ends on June 30, 2016.

A presentation was made to the Board of Directors on January 13, 2016 to introduce the subject and to review and discuss alternatives. An informational meeting was held for the landowners on March 28, 2016. No subsequent refinements were needed based on the landowner meeting. The finalized analysis was presented to the Board for final review on April 13, 2016.

The Board determined that the recommended drainage fee structure is the most prudent way to balance the revenues and expenditures of the District; District landowners will see a tiered fee increase based on anticipated costs up to \$4.00/ac in 2021 with an average drainage fee of \$3.50/ac over the planning period.

1.1 STUDY PURPOSE AND OBJECTIVES

The purpose of this study is to conduct a comprehensive analysis of the District's drainage fee, including documentation of the analysis, underlying assumptions, and the rationale for the recommended fee structure. This study has several key objectives:

- **Revenue Sufficiency:** Fees needed to generate sufficient revenue to fund ditch maintenance operations and maintain adequate reserves.
- **Fairness:** Fees are designed so each customer class pays its proportionate share of the required revenue in compliance with legal rate-making requirements.
- **Affordability:** Minimize fee shock; fees need to be as affordable as possible while maintaining the District's sound financial position.
- **Open Process:** The process is designed to allow for customer input. Fees are designed to be as simple as possible to facilitate customer understanding and acceptance.
- **Administrative Ease:** Fees are designed to enable easy implementation and ongoing administration, including monitoring and updating.

These objectives should be met by applying industry standards to comply with all applicable laws.

1.2 METHODOLOGY

This financial plan and drainage fee study included three analytic stages:

- **Revenue Requirement Projections:** The District's expenses and revenues, from drainage fees and non-drainage fees, for a five-year planning period (2017 to 2021) are projected based on

expected cost escalation factors. The difference between expenses and revenues must be offset by increased revenue and/or expense reductions.

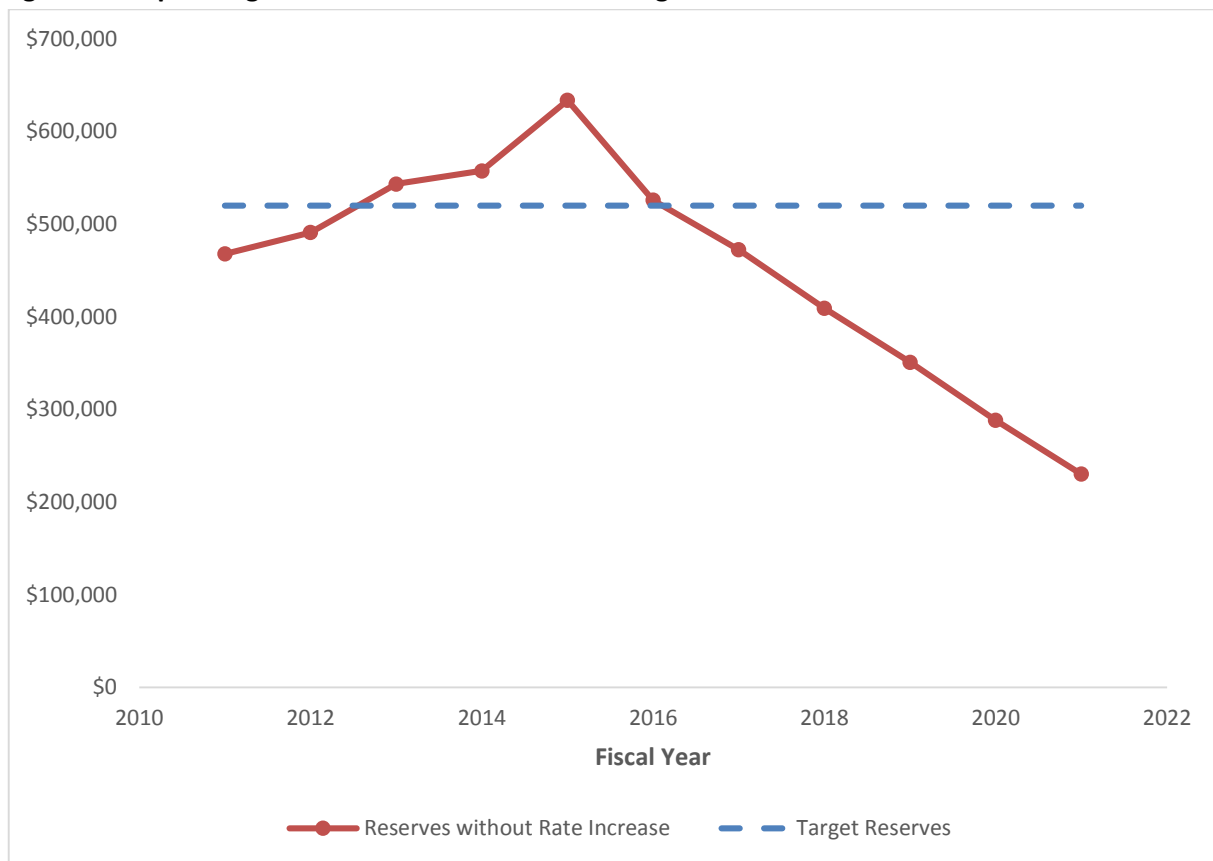
- **Cost of Service Analysis:** The net revenue requirement (projected expenses minus non-drainage fee revenue) for the five-year planning period is allocated to each customer based on a uniform per acre runoff rate; each acre is allocated an equal share in the District’s drainage system.
- **Rate Calculation and Bill Impacts:** Rates are designed so that each customer recovers his/her share of the cost of service based on the uniform drainage allocation method.

1.3 FINDINGS AND RECOMMENDATIONS

Net Revenue Requirement Projections

The District's projected expenses over the five-year planning period minus the net non-drainage fee revenue (e.g., property taxes, net professional services revenues, etc.) necessitates a 16% average annual increase in the drainage fee to cover expenses and maintain a reasonable reserve. The District's operating reserve balance will fall below the reserve target by 2017 and will be reduced to 44.4% of the reserve target by 2021 if drainage fee revenue is not increased, as shown below in Figure 1-1. Detailed calculations of the District's projected expenses, non-drainage fee revenues, and a justification for prudent reserve target ("Net Revenue Requirement") are contained in Section 2: Revenue Requirement Projections.

Figure 1-1. Operating Reserve Balance without Drainage Fee Increases



Cost of Service Analysis

A cost of service analysis is periodically conducted by most utilities to determine whether customers are paying their proportionate shares of the revenue requirements. The Agricultural drainage class represents 97.9% of the District’s drainage service area and 98.0% of the runoff load. The remaining drainage classes: Agricultural – Residential, Commercial – Industrial, and Institutional land uses comprise 2.1% of the area. There is a significant difference in the runoff load between the Commercial – Industrial and all other drainage classes due to the amount of impervious land in each class.

As discussed in Section 3: Cost of Service Analysis, a runoff load cost allocation does not meaningfully change the revenue outcome between drainage classes although implementing a different billing method would significantly increase costs to the customers. At this time, the expenses required to implement an alternative billing system would greatly exceed the difference in revenues between the classes, which is less than 0.5%. The District will evaluate land use changes in subsequent rate studies to determine if conditions have changed enough to justify a runoff load allocation and an alternative billing system.

Recommended Drainage Fee

The recommended drainage fee, presented in Figure 1-2, is set to align the revenue to the cost of service over the five-year planning period based on the uniform drainage allocation method. Calculations of the proposed rate are detailed in Section 4: Rate Calculations and Bill Impacts.

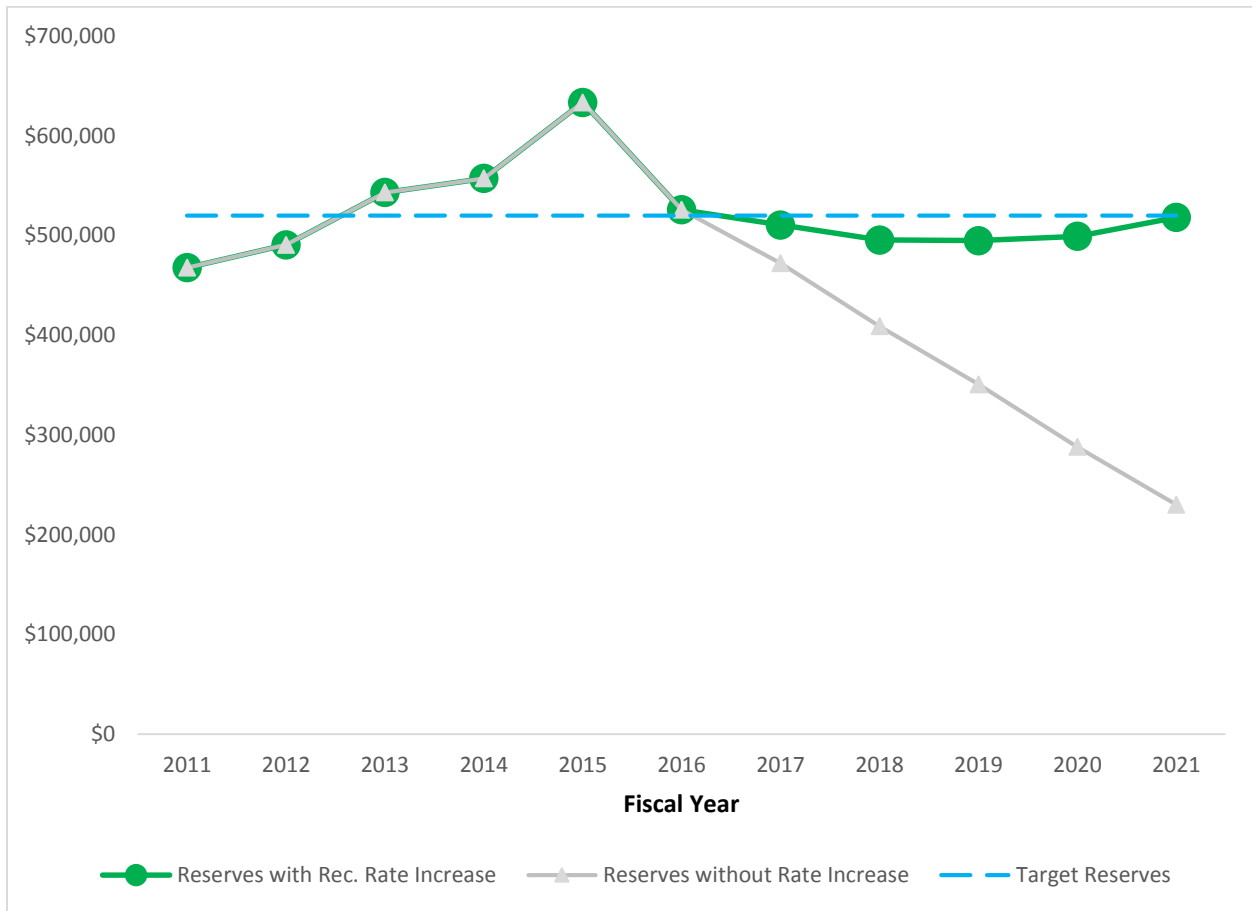
Each year, prior to implementing the fee increases, District staff should confirm the need for the fee increase. The District can implement a lower fee increase, if conditions warrant, without going through the Proposition 218 notification process. If higher fee increases are needed that exceed the adopted rates, the District will need to initiate a new Proposition 218 proceeding, which includes mailing notices to affected property owners, a public hearing and an election.

Figure 1-2. Current and Proposed Drainage Fee

	Current Fee	Recommended Rate					
		2017	2018	2019	2020	2021	
Drainage Fee (\$/Ac)	\$2.00	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$3.50 (Average Fee)
% Change		50.0%	8.3%	7.7%	7.1%	6.7%	16.0% (Ave Annual Increase)

The need for the drainage fee increase was demonstrated in Figure 1-1 by the significant decrease in the operating reserve balances without such an increase. As shown in Figure 1-3, the increased drainage fee revenue resulting from the proposed fees detailed in Figure 1-2 results in prudent operating reserves by 2021.

Figure 1-3. Operating Reserve Balance With and Without Drainage Fee Increases



2 REVENUE REQUIREMENT PROJECTIONS

2.1 BACKGROUND

The District provides drainage services to 206 customers serving 32,285.3 acres. Additionally, the District provides drainage service to the City of Dixon through an agreement.

The District's system of open drainage ditches and culverts was constructed during the 1950's and 1960's. The District is responsible for the maintenance and improvements of 70.5 miles of ditches and 150 culverts. The system is designed to uniformly allocate (uniform drainage allocation) a drainage rate of 0.02 cubic feet per second (cfs) per acre. Since the inception of the District, annual maintenance of the ditch system was supported by billing each landowner for each acre per parcel, as determined by the Solano County Assessor. The current drainage fee of \$2.00 per acre was established in December 1989. Over the past decade, the Board has monitored the annual cost of providing the drainage services. During this period, the fee was maintained at \$2.00/ac by developing a professional services enterprise that offset overhead costs and contributed any net revenues to the District reserves. Professional services include managing leases in the Yolo Bypass Wildlife Area, administering the Irrigated Lands Regulatory Program, and providing staff for the Dixon Regional Watershed Joint Powers Authority. These net revenues have been allocated for long term improvement of drainage infrastructure. Over the five-year planning period, the professional services will continue contributing net revenues to the fund balance, however at a significantly lower amount. The decrease in the net professional services revenues is due to a reduction in the number of outside projects. The significant change in net revenues has required the District to examine its rate structure.

Ditch Operations are the expenses used to maintain drainage services to the District's customers and are covered by the drainage fee. The drainage fee revenue is also used to cover capital improvement projects to upgrade or replace the District's infrastructure. Administrative Operations are expenses to manage the District's operations (e.g. Board related activities) and are largely covered by the District's share of local property taxes.

The process of updating the District's drainage fee began in March 2015 with Staff and Board review of the District's current fee structure and possible alternatives. On January 13, 2016, the Board reviewed the fee-making objectives, the District's five-year financial plan and recent developments that are reflected in this analysis, rate, and model development. Preliminary results were presented for Board review and revision in March 2016. An informational workshop was held on March 28, 2016 to provide the preliminary results to the landowners and obtain any questions or concerns. Based on direction received from the Board members and comments from the landowners, a final revision to the preliminary results was made and presented to the District's Board on April 13, 2016.

2.2 PRIOR PERIOD REVIEW 2011-2015

The District has prepared the Prior Period Review to evaluate the past revenues and expenditures while setting the basis for the operation expense projections in Section 2.4: Operating Expense Projections.

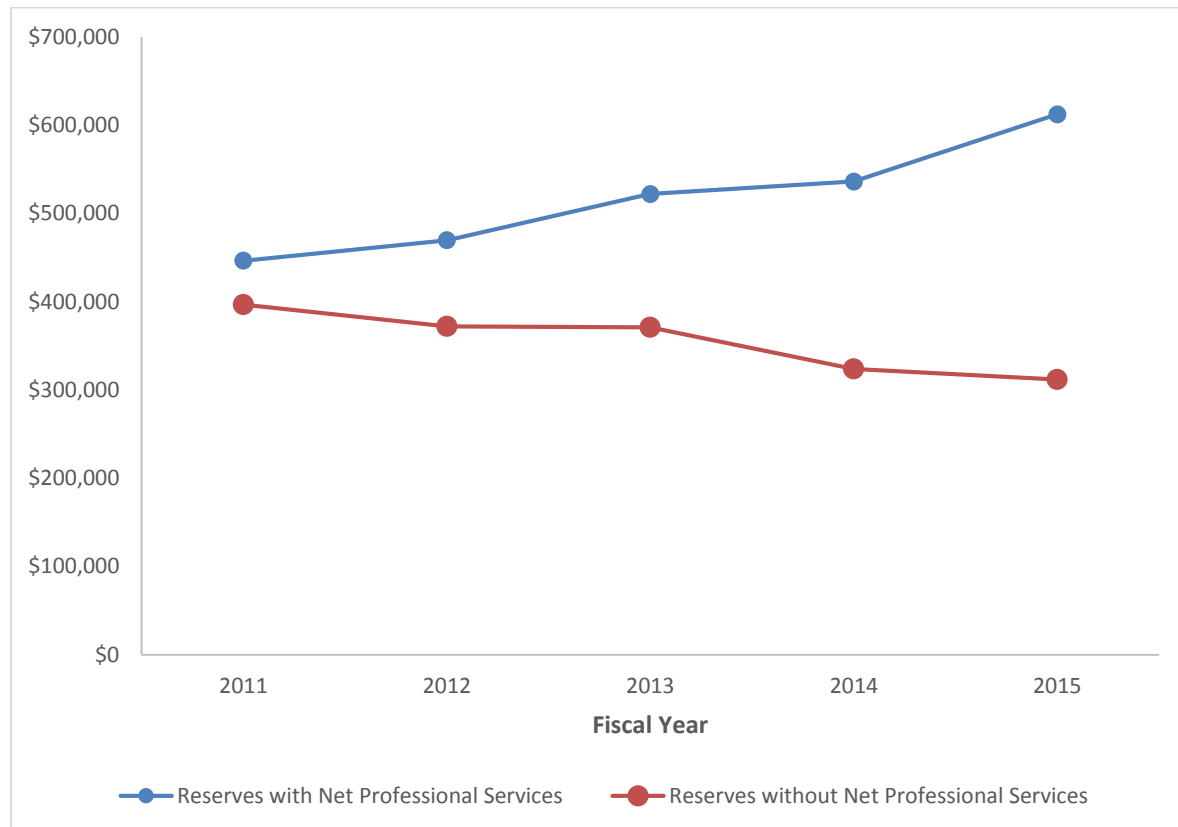
In 2002, the District began to seek other means to generate revenues in order to offset the increasing operating costs and to generate additional net revenues that could bolster the District’s financial position. In 2004, the District began to provide management services to other agencies and programs. The management services were agricultural lease management for the CA Department of Fish and Wildlife and staffing for the Water Quality Coalition and Regional Watershed Joint Powers Authorities (JPAs). As a result of these professional services, the District reserves increased by \$487,595, with agricultural lease management contributing 87.9% of the increase.

In order to track and monitor the revenues and expenditures for the different operations, the District implemented a cost center based accounting system with two primary categories: Governmental Services and Professional Services with sub-categories for each specific agreement or type of service. After 12 years, the agricultural lease management services has ended resulting in the need to closely evaluate the current and future financial needs and obligations of the District.

The financial impacts from the Professional Services enterprise is accounted for as Transfers (net professional services revenues) on Table A-5 (Appendix A) for the planning period.

The transfers from the professional services cost center have dramatically augmented the District’s financial position and reserve levels. Figure 2-1 presents the reserve fund balance for the planning period with and without the net professional services revenues.

Figure 2-1. Reserve Fund Balance

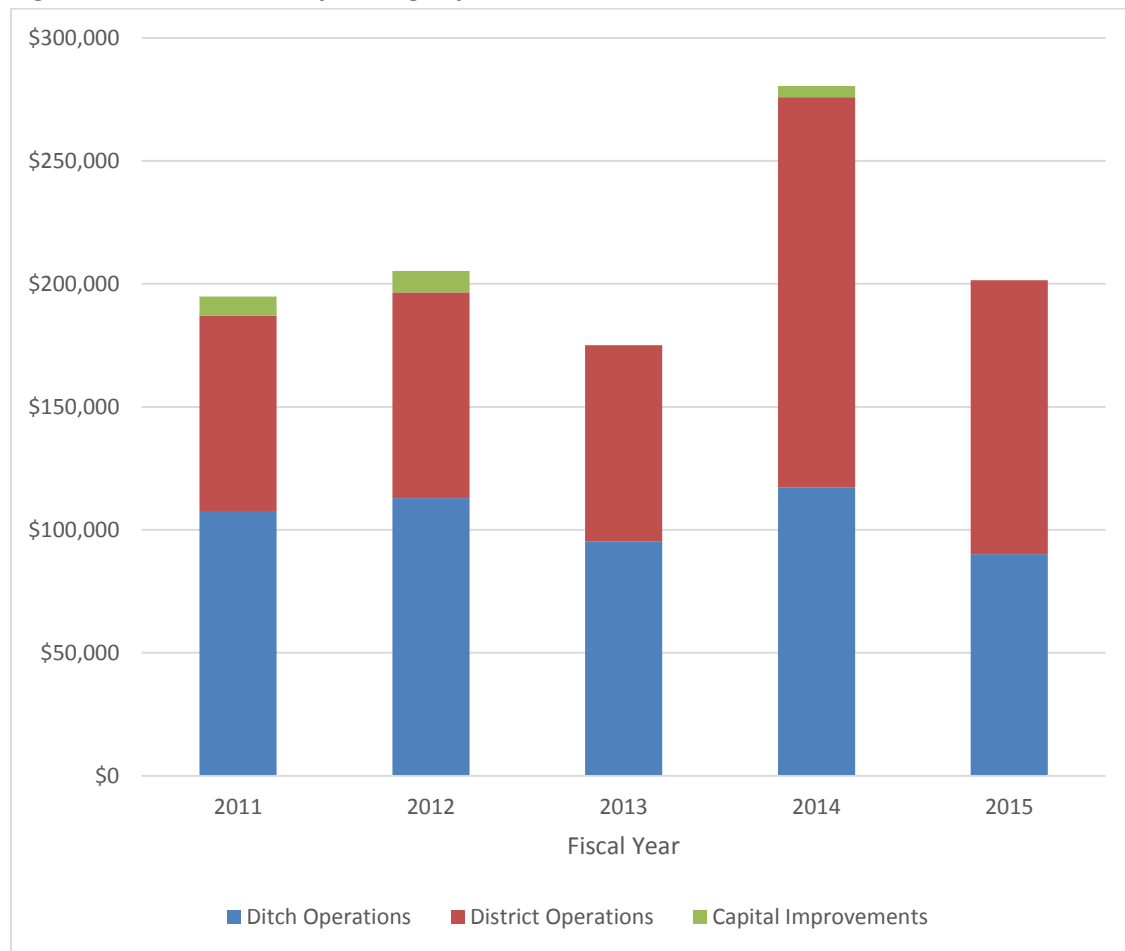


Governmental Services represent the two core functions of the District: Ditch Operations and District Operations. Ditch Operations represent the staffing, maintenance, services and supplies needed to operate, maintain and improve the District’s drainage system. District Operations represent the staffing, services, and supplies needed to be a public agency and address the resource concerns of the District constituents, such as flooding, habitat, ground water, and urbanization.

Prior Period Operating Expenses

The operating expenses for prior period provides an important foundation on which the current year’s budget and the operating expense projections are built upon. The average annual operating expenses were \$211,420 with a range of \$175,103 to \$280,392. More detail on the Ditch and District Operations is located in Table A-2 (Appendix A).

Figure 2-2. Prior Period Operating Expenses



	2011	2012	2013	2014	2015
Ditch Operations	\$107,710	\$112,840	\$95,249	\$117,375	\$90,152
District Operations	\$79,268	\$83,673	\$79,854	\$158,520	\$111,358
Capital Improvements	\$7,914	\$8,689	\$0	\$4,497	\$0
Total Annual Expenses	\$194,892	\$205,202	\$175,103	\$280,392	\$201,510

2.3 CURRENT FISCAL YEAR OPERATING BUDGET

Fiscal Year 2016 (July 1, 2015 - June 30, 2016) represents a transitional year in which many new requirements and structures are being implemented. Some of the key changes that have increased the cost of operations are 1) cost of labor compliance and contracting regulations, 2) cost associated with new office equipment and rent since the USDA office relocation, and 3) the reduction in professional services revenue due to the elimination of the ag lease management services.

The 2016 Ditch Operations expenses increased by \$51,671 above the prior period average to \$156,336. The primary reasons for the increased cost are:

- Additional staff time to implement new contracting rules, this rate study and ditch maintenance coordination.
- Ditch cleaning was completed on 19.3 miles in 2016 versus an average of 6.6 miles during the prior period.
- The hourly ditch cleaning cost increased by 20.8% over the prior period average. This increase was largely due to new labor compliance rules that resulted in an increase in the current contracting rates.
- Legal and engineering costs to perform the rate study.

The 2016 District Operations expenses increased by \$41,282 above the prior period average to \$143,817. The primary reasons for the increased cost are:

- Legal and Engineering costs for studies related to the regional drainage issues.
- Support for the JPAs to fund the regional projects.

The District has invested \$30,250 into asset improvements. These improvements are:

- Office equipment, which was necessary due to the USDA office relocating to Vacaville.
- Two significant ditch repair and access improvement projects.

As a result of the additional expenditures for the rate study, regional drainage planning and asset investment, along with the reduction in professional revenues, the District anticipates that the Reserve fund balance will be reduced by \$107,655 and the fund balance will be \$525,864 on June 30, 2016.

These changes and their influence can be seen in the figures in Section 2.4 and the tables in Appendix A.

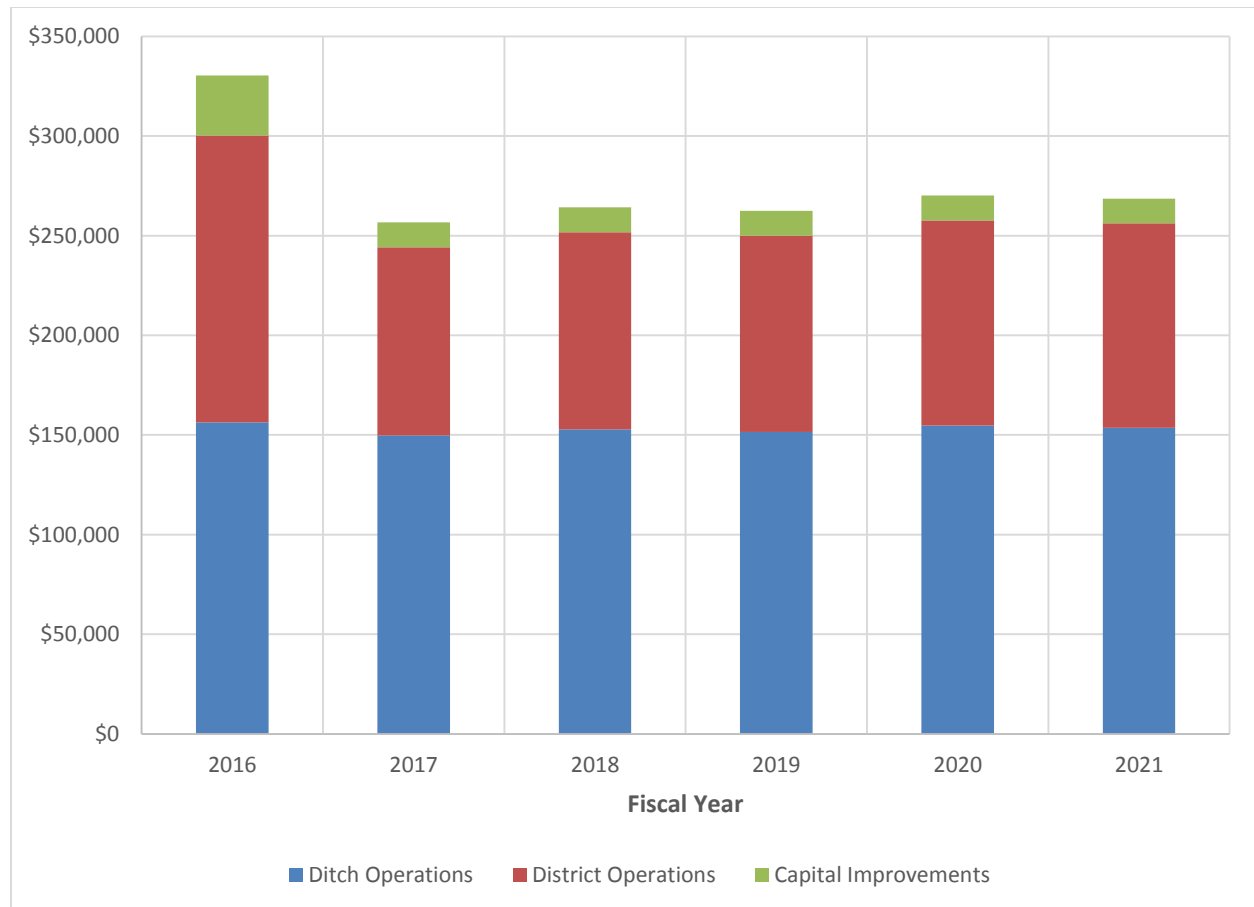
2.4 OPERATING EXPENSE PROJECTIONS

A drainage fee analysis begins by determining the net revenue requirement that must be met by the drainage fee (net revenue requirement equals projected operating expenses minus non-drainage fee revenue).

A five-year financial plan was developed using the District's detailed cost accounting. Operating expenses were projected for Fiscal Years 2017 through 2021 using the District's prior period actual

expenses and the 2016 budget as the starting point. Annual expenses are projected to fluctuate between \$256,661 and \$270,161 during the five-year planning period, as shown below in Figure 2-3. The District’s 2017 Budget details and the 2017-2021 Operating Expense Projections are contained in Tables A-1 and A-2, respectively (Appendix A).

Figure 2-3. Projected Operating Expenses



	2016	2017	2018	2019	2020	2021
Ditch Operations	\$156,336	\$149,722	\$152,859	\$151,536	\$154,704	\$153,613
District Operations	\$143,817	\$94,439	\$98,920	\$98,375	\$102,957	\$102,516
Capital Improvements	\$30,250	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500
Total Annual Expenses	\$330,403	\$256,661	\$264,279	\$262,411	\$270,161	\$268,629

2.5 KEY OPERATING EXPENSE ASSUMPTIONS

Ditch Operations Expenses

Operations staffing levels during the planning period are expected to remain consistent, at 25% of a full time equivalent employee (FTE), which is 15% more than the prior period. The staffing level increase is needed to comply with the new labor and contracting requirements. The annual inflation rate for salaries and benefits is projected to be 2.5% per year. The District anticipates managing the other expenses consistent with the 2017 budget, except for any known increasing or fluctuating costs, such as the biennial audit and Reclamation District No. 2068 administrative fee which is adjusted for inflation on a biennial basis. Otherwise, no inflationary factor has been included for ditch operations during the planning period. The Board would prefer to adjust expenditures or find funds elsewhere in the budget during the planning period to account for inflation.

Administrative Operations Expenses

Administrative staffing levels will remain at .85% FTE during the five-year planning period. The annual inflation rate for salaries and benefits is projected to be 2.5% per year. The District anticipates managing the other expenses consistent with the 2017 budget, except for any known increasing or fluctuating costs, such as the biennial audit. Otherwise, no inflationary factor has been included for administrative operations during the planning period. The Board would prefer to adjust expenditures or find funds elsewhere in the budget during the planning period to account for inflation.

Capital Improvements Projects

Capital Improvements are funded through the annual drainage fees. During the five-year planning period, both recurring and planned capital improvements are anticipated. During the five-year planning period, recurring capital expenses are anticipated to be \$12,500 per year. The Capital Improvement Projects Table (Appendix A) provides more details on near-term and long-term capital improvement projects that must be funded.

Operating Reserve

Drainage fee revenue is increased not only to cover projected expenses but also to maintain operating reserves at adequate levels. For purposes of rate setting, the following reserve target balances were established.

- **Minimum Balance:** The Minimum Balance is based on the amount of revenue that is needed to provide month-to-month cash flow for all combined District operations. By maintaining this minimum reserve, the District is able to meet its cash flow burden without borrowing. To meet this obligation, the District's policy is to maintain a minimum balance of 50% of the District's combined annual budget or \$200,000 for FYs 2016 - 2021.
- **Target Balance:** The Target Balance is the Minimum Balance plus an additional cash margin so that sufficient funds are available to pay for large capital expenses without cash flow constraints. The vehicle and capital improvement component is set to \$320,000, during the

duration of the five-year planning period, to fund near-term improvements and to provide funds for long term and/or emergency projects.

The District's current reserve allocation for the planning period is made up of the following components:

Minimum Balance: \$200,000

- **\$28,000 Imprest Cash** reflects the cash held outside of the County funds, such as the District's First Northern Bank accounts, which are used on an ongoing basis for payroll and petty cash needs.
- **\$92,000 General** is reserved for fiscal uncertainty. When approved by the Board, it is used to buffer yearly variations in cash flow, adjust staffing levels based on unexpected project fluctuations, and to cover the District's liabilities such as accrued leave.
- **\$80,000 Fund Balance Available** reflects the difference between dedicated reserves and cash on hand, it also represent unrestricted cash that contributes to the minimum balance.

Target Balance: \$320,000

- **\$100,000 Future Equipment Acquisition** is used to plan for and purchase new equipment, such as computers, servers, office equipment, ditch maintenance equipment, and vehicle replacement.
- **\$20,000 Regional Collaboration** is used to review potential projects that could impact District facilities.
- **\$200,000 Future Capital Improvement Acquisition District** is used to plan for and implement a schedule of drainage system improvements, such as anticipated major culvert replacements.
- The District's reserve target is currently fully funded. However, in order to maintain the operating reserve above the minimum balance, the drainage fee will need to be increased over the next 5 years to fully cover both the operating expenses and target reserves in 2021.

Through the planning period, the net revenue average annual increase is \$49,721. In 2018, the drainage fee would need to increase by \$55,290 above the current drainage fees, in order to meet the operating expenses and reserves requirements. The Board has determined that running a deficit in the short term will allow the rate increase to be spread out over the planning period.

Non-Drainage Fee Revenue

The District has additional revenues, aside from drainage fee revenue, that helps cover the operating expenses, as shown in Figure 2-4.

Figure 2-4. Projected Non-Drainage Fee Revenue

Source	Budget	Projections				
	2016	2017	2018	2019	2020	2021
Drainage Services Agreements Revenues						
City of Dixon (\$/Acre)	\$8.00	\$12.00	\$13.00	\$14.00	\$15.00	\$16.00
City of Dixon (Acre)	1,535.0	1,535.0	1,535.0	1,535.0	1,535.0	1,535.0
City of Dixon	\$12,280	\$18,420	\$19,955	\$21,490	\$23,025	\$24,560
Solano Irrigation District (fixed rate)	\$2,450	\$2,450	\$2,450	\$2,450	\$2,450	\$2,450
Maine Prairie Water District (reimbursement)	\$0	\$0	\$0	\$0	\$0	\$0
Dixon Regional Watershed JPA (reimbursement)	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500
Total Drainage Services Agreements Revenues	\$19,230	\$25,370	\$26,905	\$28,440	\$29,975	\$31,510
Administrative (District) Revenues						
Property Tax Revenue	\$97,100	\$100,013	\$103,013	\$106,103	\$109,286	\$112,565
Other Revenues (Interest/Fees/Etc.)	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500
Reimbursement Agreements	\$18,000	\$0	\$0	\$0	\$0	\$0
Transfers (net professional services revenues)	\$20,648	\$15,000	\$10,000	\$10,000	\$10,000	\$10,000
Total Administrative (District) Revenues	\$140,248	\$119,513	\$117,513	\$120,603	\$123,786	\$127,065
Annual Non-Drainage Fee Revenue	\$159,478	\$144,883	\$144,418	\$149,043	\$153,761	\$158,575

The other sources of revenue are divided into two categories: Drainage Service Agreements, which can fluctuate, and Administrative, which tends to be fairly stable.

The drainage fee agreement with the City of Dixon is set at four times the District's annual drainage fee and thus will increase as the drainage fees are increased over the planning period. The Solano Irrigation District, Maine Prairie and JPA drainage agreements are either fixed rate or direct expense reimbursements, consequently they contribute less to the total revenue over time.

The Administrative revenue primarily comes from the District's share of property tax, interest revenue and the net revenue from the District's other professional services (e.g. providing staffing to manage the Dixon/Solano RCD Water Quality Coalition and the Dixon Regional Watershed Joint Powers Authority).

Net Revenue Requirement Calculation

Figure 2-5 summarizes the annual increases in the District's net revenue requirement that drainage fees must fund, based on the five-year financial plan developed by District Staff.

Figure 2-5. Net Revenue Requirement Projections

Source	Budget		Projections			
	2016	2017	2018	2019	2020	2021
Ditch Operations	\$156,336	\$149,722	\$152,859	\$151,536	\$154,704	\$153,613
Administrative Operations	\$143,817	\$94,439	\$98,920	\$98,375	\$102,957	\$102,516
Capital Improvements	\$30,250	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500
Total Operating Expenditures	\$330,403	\$256,661	\$264,279	\$262,411	\$270,161	\$268,629
Non-Drainage Fee Revenue						
Drainage Services Agreements Revenues	-\$19,230	-\$25,370	-\$26,905	-\$28,440	-\$29,975	-\$31,510
Property Tax Revenue (+3% per year)	-\$97,100	-\$100,013	-\$103,013	-\$106,103	-\$109,286	-\$112,565
Other Revenues (Interest/Fees/Etc.)	-\$4,500	-\$4,500	-\$4,500	-\$4,500	-\$4,500	-\$4,500
Reimbursement Agreements	-\$18,000	\$0	\$0	\$0	\$0	\$0
Transfers (professional services)	-\$20,648	-\$15,000	-\$10,000	-\$10,000	-\$10,000	-\$10,000
Total Non-Drainage Fee Revenue	-\$159,478	-\$144,883	-\$144,418	-\$149,043	-\$153,761	-\$158,575
Net Revenue Requirement	\$170,925	\$111,778	\$119,861	\$113,368	\$116,400	\$110,054
	% Change	-52.9%	6.7%	-5.7%	2.6%	-5.8%

The current drainage fee generates \$64,571. As shown in Figure 2-5, the District's net revenue requirement to be funded by the drainage fee is \$111,778 in 2017 and averages \$114,292 during the planning period. As a result, a 16% average annual increase in drainage fee revenue is necessary to cover the increasing operating and maintenance costs and to provide adequate reserves through the five-year financial planning horizon.

3 COST OF SERVICE ANALYSIS

Figure 2-3 summarized the total net revenue requirement for providing services. In order to develop fees that do not exceed the cost of providing service to any particular customer class, a review of the cost of service is provided to determine if there is an alternative method to distribute the costs among customer classes that is consistent with the drainage system's design and use.

3.1 Uniform Per Acre Drainage Allocation

The District's system of open drainage ditches and culverts was constructed during the 1950's and the 1960's. The system is designed to uniformly allocate a drainage rate of approximately 0.02 cubic feet per second (cfs) per acre or 11 cfs per square mile. The objective of the original design was to provide drainage to agricultural lands to reduce winter flooding. At the inception of the drainage projects, individual landowners within the drainage service areas were assessed a per acre fee for annual ditch maintenance. The current drainage service area map is attached as Appendix B. The design of the drainage system is based on equal access and utilization. During the intervening decades, the District has largely maintained the original culvert designs, to help ensure equitable distribution of drainage benefits. The original design is based on a single class of agricultural customers. The agricultural class of the 1950's and 1960's typically included residences and related agricultural structures and facilities.

3.2 Runoff Load Allocation

Land Use

In preparation for this rate study, District staff conducted a parcel by parcel review comparing existing Solano County land use designations with the actual land use. A consolidated land use table is provided in Figure 3-1. The analysis has determined that the Agricultural – Residential, Commercial – Industrial, and Institutional land uses comprise 2.1% of the total land use in the District Service Area.

Figure 3-1. District Land Use Codes

Parcel Land Use Type				
Use Code	Description	Classification	No. of Parcels	Parcel Acres
1000	Agricultural - Residential	Parcels less than 14.99 Acres	41	289.08
3000	Commercial - Industrial	Parcels of High Impervious Areas	5	110.05
5000	Agricultural	Ag Parcels and Ag - Residential Parcels greater than 15 Acres	326	31,581.04
8000	Institutional	Cemetery and Open Ground	6	285.92
N/A	Residential Development	To be w/in the City of Dixon's Agreement	2	19.21
Total			380	32,285.30

The District has defined an Agricultural – Residential parcel as less than 14.99 acres that includes at least one residence and either agricultural activities or open space on the majority of the parcel with the exception of the 2 of smallest parcels, which are fully residential. The Agricultural – Residential land use comprises 289.08 acres or 0.9% of the total acres receiving service from the District.

The District has defined a Commercial – Industrial parcel as one in which the majority of the parcel is dedicated to commercial or industrial activities and contains significant impervious surfaces. The Commercial – Industrial land use comprises 110.05 acres or 0.3% of the total acres receiving service from the District.

The District has defined an Institutional parcel as one owned by the City or a Special District. The primary use of these parcels is open space, cemetery or cultivated agricultural. The Institutional land use comprises 285.92 acres or 0.9% of the total acres receiving service from the District.

The Agricultural land use designation represents a land use where the majority of the parcel is used for farming activities or is open space. This comprises 31,581.04 acres or 97.9% of the total acres receiving service from the District.

Runoff Loads

To determine potential customer classes, the District has considered the likely runoff load from each land use designation. The calculated runoff load for each land use designation is presented in Figure 3-2. The District used the Solano County Hydrology Manual, June 1999 Table 3-2: Runoff Coefficients for 10-Year Return Frequency (Appendix C) as a basis for determining the likely runoff coefficient for each land use. The Manual provides a range of runoff coefficients for each land use; the District used the average of each land use designation for the purpose of this rate study.

Figure 3-2. Runoff Load Coefficients

Use Code	Drainage Class	No. of Parcels	Total Area		Coeff (a)	Runoff Load Weighted Load	
			Acres	Share		Calculation	Share
1000	Agricultural - Residential	41	289.08	0.9%	0.300	86.72	0.8%
3000	Commercial - Industrial	5	110.05	0.3%	0.625	68.78	0.7%
5000	Agricultural	326	31581.04	97.9%	0.325	10263.84	98.0%
8000	Institutional	6	285.92	0.9%	0.175	50.04	0.5%
Total		378	32266.09	100.0%		10469.38	100.0%
N/A	Residential Development	2	19.21				
Total		380.0	32285.30				

(a) Source: Solano County Hydrology Manual, June 1999 Table 2-3. Runoff Coefficients for 10-Year Return Frequency

The runoff load coefficients demonstrate that the Commercial – Industrial land use does have the potential to contribute a high rate of runoff per acre. Using the runoff load coefficients method, the Agricultural share largely remains unchanged at 97.9 % based on area versus 98.0% based on the runoff coefficient. However, within the non-agricultural land use designation, the Commercial – Industrial share would double, while the institutional share would be reduced by half.

The District has considered the option to allocate the net revenue requirements for 2017 based on the Uniform Per Acre Drainage Allocation method that utilized the Runoff Load Coefficients. The impacts to the individual classes are presented in Figure 3-3. The Agricultural class share of the net revenue requirements for 2017 would increase by 0.2%. Commercial – Industrial share would increase by 0.3%, while the Agricultural – Residential and Institutional shares would be reduced by 0.1 and 0.4%, respectively.

Figure 3-3. Uniform Drainage Allocation versus Runoff Load Coefficients using 2017 Revenue Requirements

Drainage Discharge Class	Area Share	Uniform / Ac Rate	Net Revenue By Class	Load Share	Runoff Load /Ac Rate	Net Revenue By Class Adj for Runoff Load	Share + / - for Load	Share + / - for \$
Agricultural - Residential	0.9%	\$3.46	\$1,001	0.8%	\$3.20	\$926	-0.1%	-\$76
Commercial - Industrial	0.3%	\$3.46	\$381	0.7%	\$6.67	\$734	0.3%	\$353
Agricultural	97.9%	\$3.46	\$109,405	98.0%	\$3.47	\$109,584	0.2%	\$179
Institutional	0.9%	\$3.46	\$991	0.5%	\$1.87	\$534	-0.4%	-\$456
Total	100.0%		\$111,778	100.0%		\$111,778		

If the District were to implement a drainage fee rate based on the runoff load coefficient method at this time, it would result in an annual redistribution of \$532, primarily from the Institutional class to the Commercial-Industrial class.

Overall, the District has determined that continuing to use the Uniform Per Acre Drainage Allocation without factoring in the runoff load coefficient meets the study's purpose and objectives. Furthermore, the District has determined that the expenditures necessary to upgrade the District's billing system, drainage policies, and to verify the status of the non-agricultural parcels to fully implement a runoff coefficient allocation would add substantial costs that would further increase costs to the customer.

The District will continue to monitor and review land use change during subsequent rate studies to determine if and when an alternative billing method should be implemented.

4 RATE CALCULATION AND BILL IMPACTS

4.1 PROPOSED RATES (2017-2021)

As discussed above, increases in the District's net revenue requirement necessitate a 16% average annual increase to the drainage fee. The District has been able to maintain the current drainage fee of \$2.00 per acre since 1990 despite increasing costs of maintenance, compliance with State and Federal regulations, permits and environmental issues. If the fee were simply adjusted for inflation, the fee would be increased to \$3.81 - 4.05 per acre as of December 31, 2015, depending on which Consumer Price Index (CPI) is used. The \$3.81 per acre increase comes from using the Western States CPI while the \$4.05 per acre increase comes from the Bay Area CPI; detailed CPIs are attached in Appendix D.

A 16% average annual drainage fee increase represents a significant increase over the planning period. Figures 4-1 and 4-2 present two possible fee structures and their resulting impacts to the District's net position for each year of the planning period.

Proposed Drainage Fee

The recommended drainage fee structure shown in Figure 4-1 reduces fee shock by spreading out the fee increases over the five year planning period. This fee structure would cause the reserves to fall below the Target Reserve in Fiscal Years 2017, 2018, 2019, and 2020. However, the Target Reserves balance would be met by 2021. By spreading out the increase over the planning period, a fee of \$4.00 per acre is required in 2021 in order to achieve the targeted fund balance. The average annual increase is 16%, which is an average fee of \$3.50 per acre over the planning period. The proposed rate also provides the District with the most flexibility so that prior to implementing an annual fee increase, District staff can confirm the need for the fee increase. The District can implement a lower fee increase, if conditions warrant, without going through the Proposition 218 process.

Figure 4-1. Current and Proposed Drainage Fee

	2016	2017	2018	2019	2020	2021	Average Annual
Drainage Fee (\$/Ac)	\$2.00	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$3.50
	% Change	50.0%	8.3%	7.7%	7.1%	6.7%	16.0%
Billed Acres	32285.3	32285.3	32285.3	32285.3	32285.3	32285.3	
Total Drainage Fees	\$64,571	\$96,856	\$104,927	\$112,999	\$121,070	\$129,141	
Net Revenue Requirement	\$170,925	\$111,778	\$119,861	\$113,368	\$116,400	\$110,054	Total
Net Position	-\$106,354	-\$14,922	-\$14,934	-\$369	\$4,670	\$19,087	-\$112,823

Alternative Drainage Fee Structure

An alternative fee structure is presented in Figure 4-2 that would increase drainage fees by 50% in 2017 and by 21.7% in 2018. The fees structure would closely align the revenues and expenditures by 2018 to

meet the targeted reserves. By moving the majority of the fee increase to the first two years of the planning period, an average rate of \$3.675 per acre is required for the remaining years to maintain the targeted fund balance. The average annual increase is 14.9%, which is an average fee \$3.54 per acre over the planning period. If this rate does not prove sufficient in the later years of the planning period, the Board would be required to curtail expenditures and/or reduce the targeted reserves. If higher fee increases are needed, the District will need to initiate a new Proposition 218 proceeding.

Figure 4-2. Drainage Fee, Front Load Increase Option

	2016	2017	2018	2019	2020	2021	Average Annual
Drainage Fee (\$/Ac)	\$2.00	\$3.00	\$3.65	\$3.65	\$3.65	\$3.75	\$3.54
% Change		50.0%	21.7%	0.0%	0.0%	2.7%	14.9%
Billed Acres	32285.3	32285.3	32285.3	32285.3	32285.3	32285.3	
Total Drainage Fees	\$64,571	\$96,856	\$117,841	\$117,841	\$117,841	\$121,070	
Net Revenue	\$170,925	\$111,778	\$119,861	\$113,368	\$116,400	\$110,054	Total
Requirement							
Net Position	-\$106,354	-\$14,922	-\$2,020	\$4,473	\$1,441	\$11,016	-\$106,365

4.2 CUSTOMER BILL IMPACTS

Figure 4-3 summarizes the annual cost impacts to the largest, average, median and smallest customers for each year of the recommended rate.

Figure 4-3. Sample Customer Impacts at the Proposed Rate

Sample Customers	Acres	Current	Proposed Rates				
		Rate	2017	2018	2019	2020	2021
		\$2.00	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Max	1411.38	\$2,822.76	\$4,234.14	\$4,586.99	\$4,939.83	\$5,292.68	\$5,645.52
Average	156.72	\$313.44	\$470.16	\$509.34	\$548.52	\$587.70	\$626.88
Median	79.11	\$158.22	\$237.33	\$257.11	\$276.89	\$296.66	\$316.44
Min	1.4	\$2.80	\$4.20	\$4.55	\$4.90	\$5.25	\$5.60

Figure 4-4 summarizes the annual cost impacts to the largest, average, median and smallest customers for each year of the alternative rate.

Figure 4-4. Sample Customer Impacts at the Alternative Rate

Sample Customers	Acres	Current	Proposed Rates				
		Rate	2017	2018	2019	2020	2021
		\$2.00	\$3.00	\$3.65	\$3.65	\$3.65	\$3.75
Max	1411.38	\$2,822.76	\$4,234.14	\$5,151.54	\$5,151.54	\$5,151.54	\$5,292.68
Average	156.72	\$313.44	\$470.16	\$572.03	\$572.03	\$572.03	\$587.70
Median	79.11	\$158.22	\$237.33	\$288.75	\$288.75	\$288.75	\$296.66
Min	1.4	\$2.80	\$4.20	\$5.11	\$5.11	\$5.11	\$5.25

Appendix A. Supporting Tables for FY 2011-FY 2021

Appendix A: Table A-1: Fiscal Year 2017 Base Year Budget Projections

Descriptions	2017 Combined Budget		2017 Gov. Service Budget		2017 Ditch Budget		2017 District Admin Budget	
	% to GS	\$ to GS	% to GS	\$ to GS	% to Ditch	\$ to Ditch	% to Dist	\$ to Dist
Payroll Expenses								
Manager Total Wages and Benefits	64.20%	\$99,823	26.76%	\$64,086	73.24%	\$17,149	73.24%	\$46,937
Admin Total Wages and Benefits	77.15%	\$38,427	16.93%	\$29,646	83.07%	\$5,019	83.07%	\$24,627
Project Manager Total Wages and Benefits	0.00%	\$54,069	0.00%	\$0	0.00%	\$0	0.00%	\$0
Membership Cord Total Wages and Benefits	0.00%	\$30,057	0.00%	\$0	0.00%	\$0	0.00%	\$0
Total Payroll Expenses		\$222,376		\$93,732		\$22,168		\$71,564
Ag Services & Supplies (Ditch Maintenance)								
Ditch Spraying - Spring \$108/ac * 122.5 acres	100.00%	\$13,230	100.00%	\$13,230	100.00%	\$13,230	0.00%	\$0
Ditch Spraying - Summer (aquatic) \$115/ac * 50 ac	100.00%	\$0	100.00%	\$0	100.00%	\$0	0.00%	\$0
Ditch Spraying - Winter \$150/ac * 122.5 acres	100.00%	\$18,375	100.00%	\$18,375	100.00%	\$18,375	0.00%	\$0
Ditch Excavation - \$2500 / mile 10 miles	100.00%	\$25,000	100.00%	\$25,000	100.00%	\$25,000	0.00%	\$0
Spoil leveling	100.00%	\$7,500	100.00%	\$7,500	100.00%	\$7,500	0.00%	\$0
Ditch Repair and Debris Removal	100.00%	\$7,500	100.00%	\$7,500	100.00%	\$7,500	0.00%	\$0
RD 2068 Cleaning & spraying	100.00%	\$7,500	100.00%	\$7,500	100.00%	\$7,500	0.00%	\$0
DRWJPA Lateral Maintenance Fund	100.00%	\$1,600	100.00%	\$1,600	100.00%	\$1,600	0.00%	\$0
NPDES monitoring	100.00%	\$7,350	100.00%	\$7,350	100.00%	\$7,350	0.00%	\$0
Total Ag Services & Supplies		\$88,055		\$88,055		\$88,055		\$0
Services & Supplies								
Cellular Telephone Services (AT&T)	37.45%	\$1,200	22.64%	\$449	77.36%	\$102	77.36%	\$347
Telephone & Internet Services	37.45%	\$0	22.64%	\$0	77.36%	\$0	77.36%	\$0
Food	100.00%	\$900	0.00%	\$900	100.00%	\$0	100.00%	\$900
Insurance -General Liability, E & O	37.45%	\$2,762	22.64%	\$1,034	77.36%	\$234	77.36%	\$800
Maintenance Equipment	37.45%	\$500	22.64%	\$187	77.36%	\$42	77.36%	\$145
Fuel & Lubricants-Auto	37.45%	\$2,200	22.64%	\$824	77.36%	\$187	77.36%	\$637
Membership-CARCD (.02 of Expenses)	37.45%	\$5,500	22.64%	\$2,060	77.36%	\$466	77.36%	\$1,594
Membership-NACD	37.45%	\$800	22.64%	\$300	77.36%	\$68	77.36%	\$232
Membership-CSDA	37.45%	\$1,100	22.64%	\$412	77.36%	\$93	77.36%	\$319
Membership-Yolo Basin Foundation	37.45%	\$1,200	0.00%	\$449	100.00%	\$0	100.00%	\$449
Membership-Farm Bureau	37.45%	\$230	22.64%	\$86	77.36%	\$19	77.36%	\$67
Miscellaneous Expense	37.45%	\$600	22.64%	\$225	77.36%	\$51	77.36%	\$174
Fees & Permits	100.00%	\$2,500	100.00%	\$2,500	0.00%	\$2,500	0.00%	\$0
Documents & Records	33.33%	\$2,000	100.00%	\$667	0.00%	\$667	0.00%	\$0
Books & Subscriptions	37.45%	\$200	22.64%	\$75	77.36%	\$17	77.36%	\$58

Appendix A: Table A-1: Fiscal Year 2017 Base Year Budget Projections

Descriptions	2017 Combined Budget		2017 Gov. Service Budget		2017 Ditch Budget		2017 District Admin Budget
Office Expense	\$4,500	37.45%	\$1,685	22.64%	\$381	77.36%	\$1,304
Office Equipment	\$1,500	37.45%	\$562	22.64%	\$127	77.36%	\$435
Computer Equipment	\$1,500	37.45%	\$562	22.64%	\$127	77.36%	\$435
Postage	\$3,000	37.45%	\$1,124	22.64%	\$254	77.36%	\$870
Accounting-BL Payroll	\$1,500	37.45%	\$562	22.64%	\$127	77.36%	\$435
Accounting-Audit (Next Audit 17/18, 19/20, 21/22)	\$0	69.23%	\$0	33.33%	\$0	66.67%	\$0
Accounting-Co Bookkeeping	\$3,000	37.45%	\$1,124	22.64%	\$254	77.36%	\$870
Engineering Services	\$5,000	100.00%	\$5,000	100.00%	\$5,000	0.00%	\$0
Legal Services	\$7,500	100.00%	\$7,500	75.00%	\$5,625	25.00%	\$1,875
Contracted Services	\$2,500	37.45%	\$936	22.64%	\$212	77.36%	\$724
Solano Co (Tax Admin Fees)	\$1,620	100.00%	\$1,620	0.00%	\$0	100.00%	\$1,620
RD 2068 - Admin Fee*	\$14,500	100.00%	\$14,500	100.00%	\$14,500	0.00%	\$0
JPA Admin Fee	\$6,370	100.00%	\$6,370	100.00%	\$6,370	0.00%	\$0
JPA Project Development	\$0	37.45%	\$0	100.00%	\$0	0.00%	\$0
A-JPA Admin Fee	\$0	37.45%	\$0	100.00%	\$0	0.00%	\$0
Software Licenses & Maintenance Agreements	\$500	37.45%	\$187	22.64%	\$42	77.36%	\$145
Publications and Legal Notices	\$500	100.00%	\$500	22.64%	\$113	77.36%	\$387
Advertising/Marketing	\$2,000	37.45%	\$749	22.64%	\$170	77.36%	\$579
Equipment-Lease:	\$0	37.45%	\$0	22.64%	\$0	77.36%	\$0
Buildings-Rents & Leases - Office Management Act.	\$16,119	37.45%	\$6,037	22.64%	\$1,367	77.36%	\$4,670
Small Tool and Instruments	\$0	37.45%	\$0	22.64%	\$0	77.36%	\$0
Education and Training	\$2,500	37.45%	\$936	22.64%	\$212	77.36%	\$724
Travel Expense	\$1,000	37.45%	\$375	22.64%	\$85	77.36%	\$290
Personal Mileage	\$1,000	37.45%	\$375	22.64%	\$85	77.36%	\$290
Refund of Prior Year Charges	\$1,500	100.00%	\$1,500	0.00%	\$0	100.00%	\$1,500
Total Services and Supplies	\$99,301		\$62,372		\$39,499		\$22,875
Total Expenses	\$409,732		\$244,159		\$149,722		\$94,439
Accounting-Audit	\$11,000	69.23%	\$7,615	33.33%	\$2,538	66.67%	\$5,077
RD 2068 - Admin Fee* Adj for inflation 16/17 \$ 17/18 3% or \$14,500; 18/19, 19/20 4% or \$15,100; & 20/21 5% or \$15,900							

Appendix A. Fiscal Year 2017 Base Year Budget Assumptions

Total Projected Expenses for all Operations in 2017 Base Year Budget Projections is \$409,732.

Ditch Operations: \$149,722

Staffing Costs: \$22,168 funds approximately a 25% of a Full Time Equivalent (FTE) or 520 hours to perform the following primary tasks; 1) to organize and monitor the ditch maintenance that is performed by outside contracts, 2) to maintain and update the ditch fee rolls, to prepare and collect the annual ditch maintenance fees, and 3) to comply with State and Federal rules for permitting and environmental compliance.

The increase in staffing is anticipated to comply with the new monitoring and reporting requirements for contracting and environmental regulations. The 2011 – 2015 average FTE was 17.0%, with a high of 26.9% and a low of 10.4%

Ditch Maintenance: \$88,055 (or \$1,248 per mile) funds the annual maintenance activities for the 70.5 mile drainage system. The work is currently performed by outside contractors. The primary task are: 1) ditch spraying, 2) ditch excavation, 3) spoils disking and leveling, 4) ditch repairs and debris removal, 5) NPDES permit monitoring 6) RD2068 maintenance cost share, and 6) JPA maintenance cost share.

This represents a 6.2% increase over the 2011 – 2015 with an average final budget of \$82,824. The actual average expenditures for these periods were \$69,091.

	2011	2012	2013	2014	2015	Average
Final Budget	\$75,750	\$83,820	\$76,550	\$90,500	\$87,500	\$82,824
Budget per Mile	\$1,074	\$1,189	\$1,086	\$1,284	\$1,241	\$1,175
Actual Expenses	\$77,718	\$70,866	\$70,845	\$75,233	\$50,794	\$69,091
Actual per Mile	\$1,102	\$1,005	\$1,005	\$1,067	\$720	\$980
Difference (+ over / - under Budget)	\$1,968	-\$12,954	-\$5,705	-\$15,267	-\$36,706	-\$13,733
Difference per Mile (+ over / - under Budget)	\$28	-\$184	-\$81	-\$217	-\$521	-\$195

Supplies and Services: \$39,499 funds the cost for service unique to the ditch and a portion of the overhead. Specific ditch expenses total \$34,662 and are 1) Fees and permits, 2) documents and records 3) engineering services, 4) legal services, 5) RD 2068 Administration Fee and 6) JPA Administrations Fee. The remainder of \$4,837 represents the cost of all other supplies, service, insurance, office expenses, etc.

The actual average expenditures for the 2011 – 2015 periods were \$25,251. The budgeted increase is due to projected expenses for engineering and legal services of \$10,625 and the new expense to lease office space, which is \$1,367. The actual average expenditures for engineering and legal services, which are directly attributed to the existing drainage system, was \$1,794 during the planning period.

Funding: Ditch operations are funded primarily by the annual ditch maintenance fee and any net revenue from District Operations and Professional Services provided to outside entities.

District Operations: \$94,439

Staffing: \$71,564 funds approximately a 85.5% of a FTE or 1780 hours to perform the following primarily tasks; 1) provided management for the board, such as monthly meetings, minutes, agenda in order to comply with the governing laws and rules of the organization, 2) manage the fiscal matters, collection and distribution of funds for overall operations, and 3) serve as a representative for constituents interest regarding resource issues such as ground water, flooding, development, land use, habitat, water conservation, etc. at local and state venues.

The actual average expenditures for the 2011 – 2015 periods were \$60,915. The increase is due to an average annual increase of 3.64% in total salary costs and staffing allocations. During the planning period it is anticipated that the District Manager would spend a higher percentage of time on District Operations, as compared to the prior period, when more time was spent providing professional service to outside entities. The 2011 – 2015 average FTE was 85.9%, with a high of 94.2% and a low of 75.1%

Supplies and Services: \$22,875 funds both direct and indirect costs (supplies, services insurance, office expenses, office lease, etc.) that are required to provide a functioning office and business entity available to meet the constituents' needs.

The actual average expenditures for the 2011 – 2015 periods were \$41,620. The higher annual average during the prior period was due to the farm and ranch cleanup grant and reimbursement agreement for regional drainage planning that were administered through the District operations cost centers in 2014 and 2015. The average annual expenditures were \$25,823 when grants and reimbursement are excluded.

Funding: District operations are funded primary by the District's share of property tax, \$100,013. The actual average property tax revenue for the 2011 – 2015 periods was \$89,396. Over the prior period, property tax revenue range was \$83,893 to \$97,399. This represents an annual average increase of 3.0% with a range of -0.1% to 5.4%. In 2014 and 2015 the rate was 5.2% and 5.4%. Over the planning period a 3% annual increase was used.

Professional Services: \$165,573

Staffing Cost: \$128,644 funds approximately a 185% of a Full Time Equivalent (FTE) or 3,840 hours. Professional Services represent the staff and management that the District anticipates providing to the Dixon / Solano RCD Water Quality Coalition (170% FTE) and to the Dixon Regional Watershed JPA (15% FTE) during the planning period.

Supplies and Services: \$36,929 funds both direct and indirect costs (supplies, services, insurance, office expenses, etc.) required to provide the service to these projects.

Funding: Professional services are provided on a contract basis where the project is billed on an hourly basis. The billable rates are established each year to cover the cost of providing the service. Since 2011, the District's revenue from professional service for the Coalition and JPA, on average has exceeded expenses by 7.6%. The District anticipates a net revenue of \$15,000 or 8.8% in 2017.

Appendix A: Table A-2. Operating Expenses

Expenses	2011					2012					2013					2014					2015					Budget																																	
	Description					2011					2012					2013					2014					2015					2016					2017					2018					2019					2020					2021			
Ditch Operations (Ditch)																																																											
Salaries & Benefits	\$6,573	\$7,452	\$6,645	\$18,708	\$12,237	\$22,192	\$22,722	\$23,290	\$23,872	\$24,469	\$22,168	\$22,722	\$23,290	\$23,872	\$24,469	\$22,168	\$22,722	\$23,290	\$23,872	\$24,469	\$22,192	\$22,722	\$23,290	\$23,872	\$24,469	\$22,168	\$22,722	\$23,290	\$23,872	\$24,469	\$22,192	\$22,722	\$23,290	\$23,872	\$24,469																								
Ditch Maintenance	\$77,718	\$70,866	\$70,845	\$75,233	\$50,794	\$98,985	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$98,985	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055	\$88,055																								
Materials & Services	\$23,419	\$34,522	\$17,759	\$23,434	\$27,121	\$34,258	\$40,670	\$38,732	\$41,270	\$39,532	\$38,132	\$40,670	\$38,732	\$41,270	\$39,532	\$38,132	\$40,670	\$38,732	\$41,270	\$39,532	\$34,258	\$40,670	\$38,732	\$41,270	\$39,532	\$38,132	\$40,670	\$38,732	\$41,270	\$39,532	\$34,258	\$40,670	\$38,732	\$41,270	\$39,532																								
Office Lease	\$0	\$0	\$0	\$0	\$0	\$901	\$1,412	\$1,459	\$1,507	\$1,557	\$1,367	\$1,412	\$1,459	\$1,507	\$1,557	\$1,367	\$1,412	\$1,459	\$1,507	\$1,557	\$901	\$1,412	\$1,459	\$1,507	\$1,557	\$1,367	\$1,412	\$1,459	\$1,507	\$1,557	\$901	\$1,412	\$1,459	\$1,507	\$1,557																								
Subtotal	\$107,710	\$112,840	\$95,249	\$117,375	\$90,152	\$156,336	\$152,859	\$151,536	\$154,704	\$153,613	\$149,722	\$152,859	\$151,536	\$154,704	\$153,613	\$149,722	\$152,859	\$151,536	\$154,704	\$153,613	\$156,336	\$152,859	\$151,536	\$154,704	\$153,613	\$149,722	\$152,859	\$151,536	\$154,704	\$153,613	\$156,336	\$152,859	\$151,536	\$154,704	\$153,613																								
Administration Operations (District)																																																											
Salaries & Benefits	\$58,989	\$59,523	\$55,445	\$65,832	\$64,784	\$80,463	\$73,353	\$75,187	\$77,067	\$78,994	\$71,564	\$73,353	\$75,187	\$77,067	\$78,994	\$71,564	\$73,353	\$75,187	\$77,067	\$78,994	\$80,463	\$73,353	\$75,187	\$77,067	\$78,994	\$71,564	\$73,353	\$75,187	\$77,067	\$78,994	\$80,463	\$73,353	\$75,187	\$77,067	\$78,994																								
Materials & Services	\$20,279	\$24,150	\$24,409	\$92,688	\$46,574	\$59,821	\$20,743	\$18,205	\$20,743	\$18,205	\$18,205	\$20,743	\$18,205	\$20,743	\$18,205	\$18,205	\$20,743	\$18,205	\$20,743	\$18,205	\$59,821	\$20,743	\$18,205	\$20,743	\$18,205	\$18,205	\$20,743	\$18,205	\$20,743	\$18,205	\$20,743	\$18,205	\$20,743	\$18,205	\$20,743																								
Office Lease	\$0	\$0	\$0	\$0	\$0	\$3,533	\$4,824	\$4,983	\$5,147	\$5,317	\$4,670	\$4,824	\$4,983	\$5,147	\$5,317	\$4,670	\$4,824	\$4,983	\$5,147	\$5,317	\$3,533	\$4,824	\$4,983	\$5,147	\$5,317	\$4,670	\$4,824	\$4,983	\$5,147	\$5,317	\$3,533	\$4,824	\$4,983	\$5,147	\$5,317																								
Subtotal	\$79,268	\$83,673	\$79,854	\$158,520	\$111,358	\$143,817	\$98,920	\$98,375	\$102,957	\$102,516	\$94,439	\$98,920	\$98,375	\$102,957	\$102,516	\$94,439	\$98,920	\$98,375	\$102,957	\$102,516	\$143,817	\$98,920	\$98,375	\$102,957	\$102,516	\$94,439	\$98,920	\$98,375	\$102,957	\$102,516	\$143,817	\$98,920	\$98,375	\$102,957	\$102,516																								
Subtotal Operating Budget	\$186,978	\$196,513	\$175,103	\$275,895	\$201,510	\$300,153	\$251,779	\$249,911	\$257,661	\$256,129	\$244,161	\$251,779	\$249,911	\$257,661	\$256,129	\$244,161	\$251,779	\$249,911	\$257,661	\$256,129	\$300,153	\$251,779	\$249,911	\$257,661	\$256,129	\$244,161	\$251,779	\$249,911	\$257,661	\$256,129	\$300,153	\$251,779	\$249,911	\$257,661	\$256,129																								
CIP Project Cash Expenditures	\$7,914	\$8,689	\$0	\$4,497	\$0	\$30,250	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$30,250	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500																								
Contribution to Reserves	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0																								
Total Operating Expenditures	\$194,892	\$205,202	\$175,103	\$280,392	\$201,510	\$330,403	\$264,279	\$262,411	\$270,161	\$268,629	\$256,661	\$264,279	\$262,411	\$270,161	\$268,629	\$256,661	\$264,279	\$262,411	\$270,161	\$268,629	\$330,403	\$264,279	\$262,411	\$270,161	\$268,629	\$256,661	\$264,279	\$262,411	\$270,161	\$268,629	\$330,403	\$264,279	\$262,411	\$270,161	\$268,629																								

Appendix A. Table A-3. Capital Improvement Projects

Project	Total Project Expenditures	Projections				
		2017	2018	2019	2020	2021
Budgeted Recurring Capital Projects						
Pipe/Culvert Rehabilitation & Replacement		\$12,500	\$12,500	\$12,500	\$12,500	\$12,500
Channel stabilization & enhancement						
Capital Improvements						
Robben Road Culvert Replacement	\$60,000					
Lateral C @ Harper Tree Removal	\$6,000					
Tremont 1 Outfall Rehabilitation (1.5 miles)	\$10,500					
Swan Road (Sac Northern) Culvert Rehab.	\$13,000					
Tremont 1 Levee Culvert Replacement	\$75,500					
Flooding Damage Repair (repair costs from 2005/06 floods)	\$40,000					
Total Capital Project Cost	\$205,000	\$ 12,500	\$ 12,500	\$ 12,500	\$ 12,500	\$ 12,500

Projects are likely to be beyond the Planning Period.

\$ assumes emergency repair w/out Cnty help

Appendix B. Drainage Service Area

Appendix C. Runoff Coefficients

Table 3-2. Runoff Coefficient for 10-Year Return Frequency^(a)

Land Use	C ^(b)
Residential	
Apartments/condominiums	0.50 to 0.70
Single family (6 - 8 units per acre)	0.50 to 0.60
Single family (4 - 6 units per acre)	0.40 to 0.50
Single family (2 - 4 units per acre)	0.30 to 0.40
Single family (1 - 2 units per acre)	0.25 to 0.35
Commercial	
Downtown	0.70 to 0.95
Neighborhood	0.50 to 0.70
Industrial	
Light	0.50 to 0.80
Heavy	0.60 to 0.90
Parks, cemeteries	0.10 to 0.25
Playgrounds	0.20 to 0.35
Railroad yard	0.20 to 0.35
Unimproved urban areas	0.10 to 0.30
Agricultural/Open Space	
Cultivated	0.20 to 0.50
Pasture	0.15 to 0.45
Oak Timber & Brush	0.10 to 0.40
Surface Types	
Asphaltic and Concrete	0.70 to 0.95
Brick	0.70 to 0.85
Roofs	0.75 to 0.95
Lawns	0.15 to 0.35

^(a) For other return periods, adjust C coefficient based on Figure 3-1.

^(b) For areas with slopes of 1 percent or less, use values in the low end of the given range; for areas with slopes greater than 1 percent and up to 5 percent, use values in the middle of the given range; for areas with slopes greater than 5 percent, use values in the high end of the given range.

Appendix C: Table C-1 District Runoff Coefficients

SCWA Hydrology Land Use	C	District Land Use	C
Single Family (1-2 units per acre)	0.25 to 0.35	Agricultural - Residential	0.3
Commercial - Neighborhood	0.50 to 0.70	Commercial - Industrial	0.625
Industrial - Light	0.50 to 0.80		
Parks, cemeteries	0.10 to 0.25	Institutional	0.175
Agricultural - Cultivated	0.20 to 0.50	Agricultural	0.325
Agricultural - Pasture	0.15 to 0.45		

**Appendix D. Bureau of Labor Statistics, Consumer Price Indices for:
The San Francisco Bay Area
&
The Western States**

Consumer Price Index - All Urban Consumers
Original Data Value

Series Id: CUURA422SA0, CUUSA422SA0

Not Seasonally Adjusted

Area: San Francisco-Oakland-San Jose, CA

Item: All items

Base Period: 1982-84=100

Years: 1990 to 2015

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	HALF1	HALF2
1990	128.5	129.2	130.0	130.7	130.8	131.6	132.3	133.1	134.0	134.6	134.7	135.1	132.1	130.1	134.0
1991	136.7	136.1	136.3	135.8	136.2	137.6	138.2	139.1	139.7	139.6	139.8	139.8	137.9	136.5	139.4
1992	140.3	141.0	141.9	141.6	141.9	141.9	142.2	142.7	143.7	144.3	144.2	144.3	142.5	141.4	143.6
1993	145.1	145.5	145.7	146.8	146.9	146.1	146.1	146.2	146.5	147.0	147.2	147.0	146.3	146.0	146.7
1994	147.5	147.4	148.2	148.0	148.3	148.1	148.9	149.4	149.4	149.4	149.8	149.4	148.7	147.9	149.4
1995	150.3	150.5	151.1	151.5	151.3	151.7	151.5	151.5	152.3	152.6	152.4	152.1	151.6	151.1	152.1
1996	152.9	153.2	152.9	153.9	155.1	155.2	155.9	155.6	156.3	156.9	156.9	156.0	155.1	153.9	156.3
1997	157.0	157.9	159.2	159.6	159.8	160.0	160.6	161.2	161.6	162.5	162.6	162.6	160.4	158.9	161.9
1998	163.2	163.2	164.6	164.6	165.5	165.5	166.6	166.6	167.2	167.2	167.2	167.4	165.5	164.2	166.9
1999	169.4	169.4	172.2	172.2	171.8	171.8	173.5	173.5	175.2	175.2	175.2	174.5	172.5	170.8	174.2
2000	176.5	176.5	178.7	178.7	179.1	179.1	181.7	181.7	183.4	183.4	183.4	184.1	180.2	177.7	182.6
2001	187.9	187.9	189.1	189.1	190.9	190.9	191.0	191.0	191.7	191.7	191.7	190.6	189.9	188.7	191.1
2002	191.3	191.3	193.0	193.0	193.2	193.2	193.5	193.5	193.2	194.3	194.3	193.2	193.0	192.3	193.7
2003	197.7	197.7	197.3	197.3	196.3	196.3	196.3	196.3	196.3	196.3	196.3	195.3	196.4	196.8	196.1
2004	198.1	198.1	198.3	198.3	199.0	199.0	198.7	198.7	198.7	200.3	200.3	199.5	198.8	198.2	199.5
2005	201.2	201.2	202.5	202.5	201.2	201.2	203.0	203.0	203.0	205.9	205.9	203.4	202.7	201.5	203.9
2006	207.1	207.1	208.9	208.9	209.1	209.1	210.7	210.7	211.0	211.0	211.0	210.4	209.2	207.9	210.6
2007	213.688	213.688	215.842	215.842	216.123	216.123	216.240	216.240	217.949	217.949	217.949	218.485	216.048	214.736	217.361
2008	219.612	219.612	222.074	222.074	225.181	225.181	225.411	225.411	225.824	225.824	225.824	218.528	222.767	221.730	223.804
2009	222.166	222.166	223.854	223.854	225.692	225.692	225.801	225.801	226.051	226.051	226.051	224.239	224.395	223.305	225.484
2010	226.145	226.145	227.697	227.697	228.110	228.110	227.954	227.954	228.107	228.107	228.107	227.658	227.469	226.994	227.944
2011	229.981	229.981	234.121	234.121	233.646	233.646	234.608	234.608	235.331	235.331	235.331	234.327	233.390	232.082	234.698
2012	236.880	236.880	238.985	238.985	239.806	239.806	241.170	241.170	242.834	242.834	242.834	239.533	239.650	238.099	241.201
2013	242.677	242.677	244.675	244.675	245.935	245.935	246.072	246.072	246.617	246.617	246.617	245.711	245.023	243.894	246.152
2014	248.615	248.615	251.495	251.495	253.317	253.317	253.354	253.354	254.503	254.503	254.503	252.273	251.985	250.507	253.463
2015	254.910	254.910	257.622	257.622	259.117	259.117	259.917	259.917	261.019	261.019	261.019	260.289	258.572	256.723	260.421
															102.56%

Consumer Price Index - All Urban Consumers
Original Data Value

Series Id: CUUR0400SA0, CUUS0400SA0
 Not Seasonally Adjusted
 Area: West urban
 Item: All items
 Base Period: 1982-84=100
 Years: 1990 to 2015

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	HALF1	HALF2
1990	127.8	128.8	129.6	129.6	130.0	130.8	131.3	132.2	133.5	134.3	134.5	135.0	131.5	129.4	133.5
1991	136.0	135.9	135.8	136.2	136.3	136.8	137.3	137.9	138.6	138.6	139.0	139.0	137.3	136.2	138.4
1992	139.8	140.5	141.1	141.3	141.4	141.6	141.9	142.3	142.9	143.7	143.9	143.9	142.0	141.0	143.1
1993	144.7	145.2	145.2	145.7	146.0	146.0	146.0	146.2	146.6	147.1	147.5	147.8	146.2	145.5	146.9
1994	148.1	148.3	149.0	148.9	148.8	148.9	149.5	150.1	150.6	151.0	151.1	151.2	149.6	148.7	150.6
1995	152.0	152.4	152.8	153.2	153.5	153.6	153.5	153.7	154.1	154.6	154.4	154.3	153.5	152.9	154.1
1996	155.3	155.8	156.4	157.1	157.6	157.5	157.9	158.0	158.6	159.1	159.2	158.7	157.6	156.6	158.6
1997	159.6	160.1	160.8	161.1	161.1	161.0	161.1	161.5	162.1	162.8	162.8	162.8	161.4	160.6	162.2
1998	163.0	163.2	163.3	163.6	164.3	164.2	164.3	164.8	165.1	165.5	165.8	165.8	164.4	163.6	165.2
1999	166.4	166.9	167.3	169.0	168.7	168.3	168.9	169.5	170.0	170.4	170.4	170.5	168.9	167.8	170.0
2000	171.0	172.0	173.5	173.7	174.0	174.3	175.2	175.9	176.6	177.2	177.2	177.1	174.8	173.1	176.5
2001	178.3	179.3	180.1	180.4	181.3	182.0	182.0	181.9	182.5	182.5	182.3	181.6	181.2	180.2	182.1
2002	182.4	183.2	184.0	185.1	184.8	184.5	184.7	185.3	185.7	185.8	185.8	185.5	184.7	184.0	185.5
2003	186.6	188.1	189.3	188.8	188.5	188.1	188.4	189.2	189.6	189.4	188.5	188.3	188.6	188.2	188.9
2004	189.4	190.8	192.2	192.3	193.4	193.3	192.9	193.0	193.8	195.0	195.1	194.2	193.0	191.9	194.0
2005	194.5	195.7	197.1	198.6	198.8	198.0	198.6	199.6	201.7	202.6	201.4	200.0	198.9	197.1	200.7
2006	201.7	202.7	203.8	205.3	206.9	206.4	206.7	207.5	207.8	207.1	206.3	206.2	205.7	204.5	206.9
2007	207.790	208.995	210.778	212.036	213.063	212.680	212.542	212.406	212.920	213.917	214.904	214.733	212.230	210.890	213.570
2008	215.739	216.339	218.533	219.437	221.009	223.040	223.867	222.823	222.132	221.034	217.113	214.685	219.646	219.016	220.276
2009	215.923	217.095	217.357	217.910	218.567	219.865	219.484	219.884	220.294	220.447	219.728	219.307	218.822	217.786	219.857
2010	219.989	220.179	220.809	221.202	221.417	221.147	221.331	221.523	221.384	221.708	221.671	222.081	221.203	220.790	221.616
2011	223.149	224.431	226.558	227.837	228.516	228.075	227.805	228.222	229.147	229.195	228.771	228.117	227.485	226.428	228.543
2012	228.980	229.995	232.039	232.561	233.053	232.701	231.893	233.001	234.083	234.966	233.206	232.029	232.376	231.555	233.196
2013	232.759	234.595	235.511	235.488	235.979	236.227	236.341	236.591	237.146	237.000	236.153	236.096	235.824	235.093	236.555
2014	236.707	237.614	239.092	239.808	241.350	241.616	241.850	241.660	241.920	241.650	240.220	239.095	240.215	239.365	241.066
2015	238.318	239.748	241.690	242.302	244.227	244.332	245.040	244.737	244.257	244.341	243.749	243.434	243.015	241.770	244.260
															90.48%