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Water Rate Study for City of Vernon

September 26, 2019

Purpose

The water rate study updates the study done by IGService dated April 2018. The key element updated is an expanded capital improvement project list requiring the need for bond funding and increased rates. This updated study stands alone without reference to the previous study. As before, customer classes are considered to assure revenue is in proportion to cost to serve them. Overall operating costs, debt, assets, and revenue are analyzed to evaluate reasonableness of costs, and the need to increase overall revenue. These steps are conducted to be consistent with the requirements of California's Proposition 218.

Summary

The City of Vernon's water rates are amongst the lowest compared to many water suppliers in the Los Angeles basin. The city's customer base is almost exclusively industrial and commercial, with a very small residential demand. Consequently, essentially all customers have flat water demand profiles throughout the year. The result is that the City's common volumetric rate for all customers is reasonable. The City's fixed monthly rate is based on meter size and is exactly proportional to the American Water Works Association (AWWA) standard. Finally, the fire protection charges are proportional to square footage of buildings, which is also equitable across customers.

In the previous April 2018 study, the capital improvement plan (CIP) was $15 million over ten years. In this updated study, it is $21 million over five years. The water system needs extensive capital improvements, accelerated since 2018 because of added water well failures. This study includes provision for $15 million in bond finance, plus the benefit to water of repayment from intra-fund loans.

This study includes the need to increase overall revenue 13 percent in the first year, followed by consecutive three percent increases to keep up with inflation. The 13 percent increase assumes the existing five percent Utility User Tax (UUT) credit is suspended such that customers pay the full six percent UUT. Rates are modified to shift revenue from volumetric charges to the fixed monthly charges, thereby increasing revenue certainty. The greatest increases of 100 percent (doubling rate) are to the fixed monthly meter charge. The fire service charge based on square footage of buildings is increased 14 percent. The volumetric rate is not increased in the first year. The result is the overall contribution from fixed revenue is increased from 30 percent to 38 percent.

Proposition 218

Proposition 218 specifies certain requirements regarding user fees, as follows.[1]

- Revenues derived from a fee or charge shall not exceed the funds required to provide the property-related service.
- Revenue derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.

[1] California Constitution, Article X111 D, Section 6(2)(b).

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- The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.
- No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question.

The consequence of these requirements is that customers should pay for water service in proportion to the cost to serve them. For Vernon, this evaluation is straight forward because all customers look essentially the same to the water system. They are essentially all commercial and industrial customers operating constantly through the year. Consequently, all customers have been charged the same volumetric rate of $2.206 per hundred cubic feet. In addition, a monthly meter rate is applied based on meter size. The existing meter rate for increasing sizes is exactly proportional to the AWWA meter factor table (5/8" scale), which is consistent with cost of service rate making. Vernon's "monthly square foot rate" is for emergency water supply to private fire protection services. This is in place of the typical fee-based on pipe service size for fire protection. The cost of fire protection is exactly proportional to square footage, again meeting the cost of service criteria. In comparison to other water service providers, the monthly cost for fire protection is also consistent.

Existing Rates and Cost of Service

Vernon's existing rate structure was most recently approved by the Vernon City Council on August 16, 2016, in Resolution 2016-48. The reason for the rate increase, as written in the staff report, was to cover increases in replenishment costs for pumped water and increasing costs of purchased water, plus needed capital improvements. The commodity and meter charge rates were increased, whereas the square footage rate was decreased. The resultant increase to revenue was approximately nine percent.

Resolution 2016-48 also includes an automatic "Pass-Through Adjustment" in Attachment B of the Resolution. This is effective for each January 1st beginning January 2017 and ending 2021. The intent of the formula is to increase the volumetric component of the water rate in proportion to an increase in cost by either the Water Replenishment District of Southern California (pumped water) or the Central Basin Municipal Water District (purchased water).[2]

Vernon's existing utility billing policy is to provide water (and other utility) customers a five percent Utility User Tax (UUT) credit to offset the full cost to customers of the increase from one percent to six percent of the UUT passed in Measure R and implemented July 1, 2018.[3] Presently, the cost burden of the five present credit is covered by revenue from rates.

Finally, Vernon's existing water rates yield a relatively low component of revenue from fixed monthly charges, compared to variable revenue from metered usage. An AWWA survey[4] reveals that the Southern California average for fixed revenue is 39 percent. Vernon's revenue from meter charges is 11 percent of the total, and revenue from the fire service square footage charge is 19 percent of the total. The combined 30 percent is still less than the Southern California average of 39 percent. The allocation of Vernon revenue is shown in the chart below.

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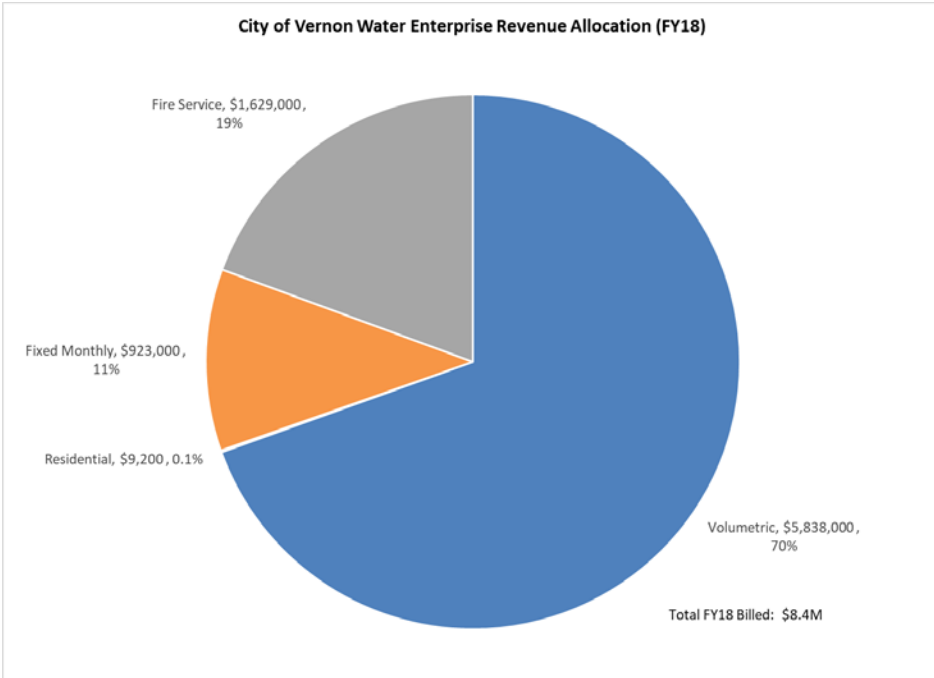
[2] Consistent with the Pass-Through Adjustment language, the commodity rate was increased from $2.097 to $2.206 per HCF effective January 1, 2018. This is a 5.2 percent increase. The rate was not increased January 1, 2019. Resolution 2016-48 will be superseded by the new rate structure proposed in this rate study.

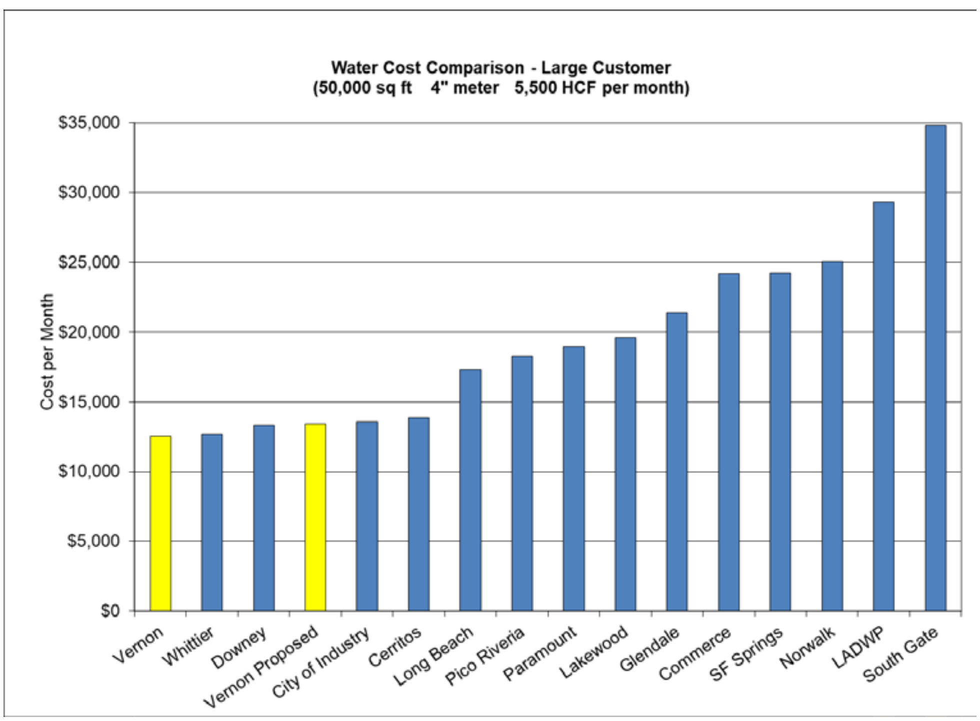
[3] Resolution 2017-65, dated April 10, 2018.

[4] AWWA Journal, September 2017, Gaur & Diagne.

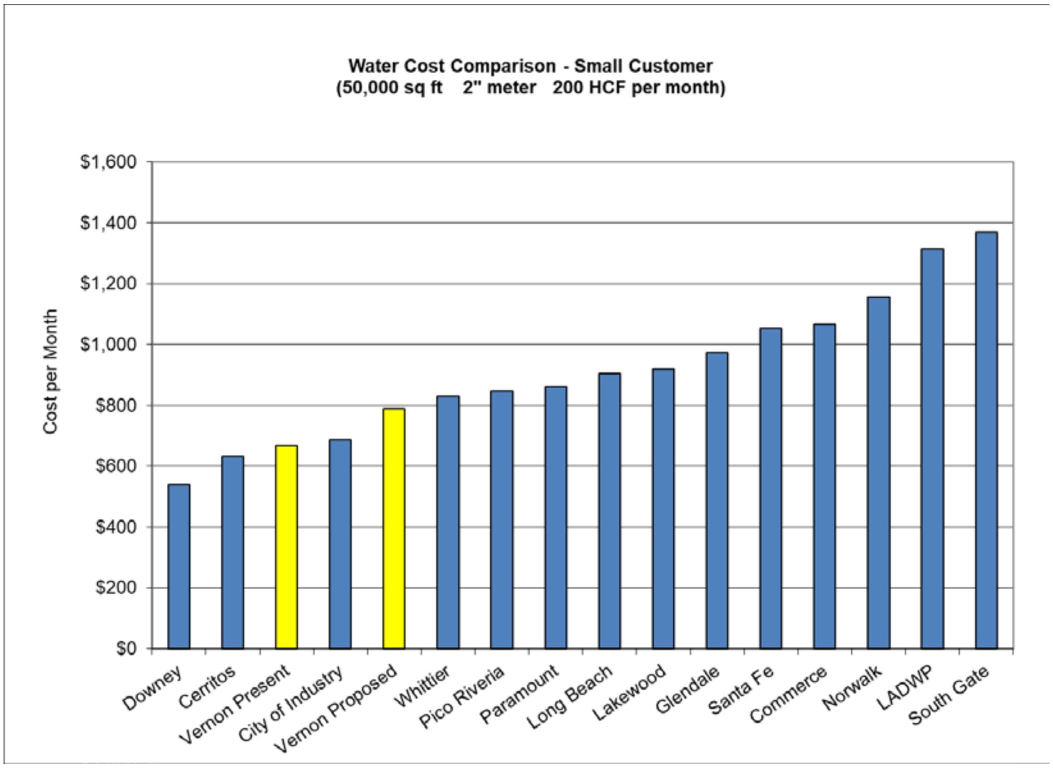


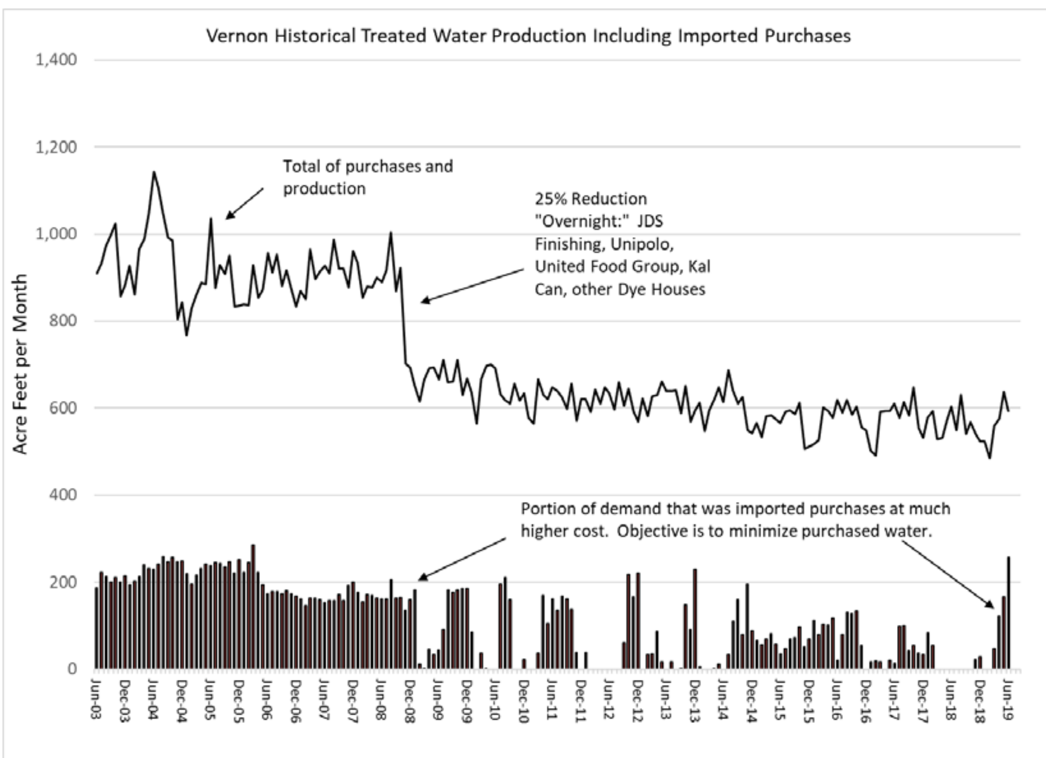
Comparison to Other Water Suppliers

Overall, Vernon's rates are amongst the lowest compared to several water suppliers in the region, including all members of the Southeast Water Coalition. The comparisons are shown separately in the charts below for a large customer and small customer. (These comparison charts also show proposed rates, covered later in this report.) Vernon is the lowest cost for a large customer with a 4-inch meter in a 50,000 square foot building consuming 5,500 AF per month.



For a smaller water customer with a two-inch meter in a 50,000 square foot building consuming only 200 HCF per month, Vernon is on the lower end of the scale.





Water Sales History

City of Vernon treated water sales have been on a very slight decline for the past ten years, this following a major 25 percent drop in 2008 caused by the stock market crash and subsequent economic recession. (See the chart above.) A benefit of the 2008 drop has been less dependency on more expensive purchased water. For example, during FY08, purchased water was 19 percent of the total, whereas during FY17, purchased water was only nine percent of the total. However, beginning in 2019, problems with the city's wells have caused an increase in purchased water as shown in the lower right corner of the chart.

Capital Improvement Projects (CIP)

In the previous study, Vernon's ten-year CIP was projected at $15 million. The near-term planning was to drill two new wells and refurbish one well over a three-year period. Doing so would have alleviated the need for expensive purchase water from Central Basin. [5] However, unanticipated well failures in the meantime have accelerated the timeline. Consequently, Vernon staff has revised the CIP to attack improvements more aggressively. The plan now is to invest more money over a shorter time period, approximately $21 million over five years. Increasing system reliability is critically important to benefit from city-source water wells, and thereby avoid the expensive cost of purchased water. The expanded CIP includes many other projects to increase operating efficiency and reliability. See the full detail of planned CIP in Attachment A.

An important consideration is that the (old) water system in its current state is oversized because water sales have declined over the past decade. Thus, the entire system will not need to be updated, but only the portions of the system needed to serve current load. Improved operating technologies will be included in system improvements resulting in better operating efficiency. For example, expanded use of variable speed drive pumping, combined with updated Supervisory Control and Data Acquisition (SCADA) will be used to better utilize both storage and delivery capacity.

Revenue and Expense Projections

Detailed revenue and expense information, including consideration for ongoing fund balances, capital expenditures and debt service, are shown in Attachment B. Audited results are shown for FY16/17 and FY17/18. Preliminary values are shown for FY18/19, and budgeted values for FY19/20.

The model shows the percentage increases needed to generate enough revenue for adequate debt service coverage. The goal is to accomplish a debt service coverage ratio of at least 1.30, meaning that revenue available for debt service is 30 percent higher than debt service needed. The percentage revenue increase is 13 percent in the first year, followed by consecutive three percent increases. The resultant debt service coverage ratios are above 2.00 over most of the 10-year planning period. The amount of debt planned is $15 million at 3.6 percent annual interest over a 30-year term. Debt service for principal and interest is $826,000 per year.

[5] During FY17/18, the average cost of city-source water was approximately $300 paid to the Water Replenishment District, whereas the average cost of purchased Central Basin water was approximately $1,200. Central Basin water is approximately four times as expensive.

Water volumes sold are assumed to be flat over the planning period. Though there has been a very slight decline over the past 10 years, Vernon's largest customer, the Farmer John pork processing facility, is presently expanding operating capacity, which should increase demand slightly.

The revenue section of the model shows an expense for the Vernon Utility User Tax (UUT) beginning July 2018, but then ending December 2019. This is to account for the five percent portion of the six percent UUT that is being credited back to customers. After December 2019, the model does not increase revenue to cover the full amount of the UUT credit to customers because our recommendation is that customers pay the full six percent UUT without showing a UUT credit on the bill. Doing so provides in better transparency to customers of the purposes for utility revenues paid. If the UUT credit were continued, the overall revenue increase from rates would be 18 percent by simply adding the five percent credit amount to the 13 percent increase recommended.

The baseline year for planning is FY18/19 with projections following for each year thereafter. The 13 percent increase is allocated between FY19/20 and 20/21 because it is planned to take place midway through FY19/20 such that not all the revenue benefit will be achieved in FY19/20. In the expense categories, purchases from Central Basin are projected to peak in FY19/20 at $1,506,785, then drop significantly in FY20/21 to $496,314. This is the result of anticipated water well repair to restore water supply from within Vernon. All expense categories are escalated over the planning period to account for inflation. Personnel costs are escalated at the highest amount of six percent. Central Basin purchased water costs are escalated at four percent, and electricity is at four percent.

Fund Balance Projections

The lower section of Attachment B shows the projected impact on the fund balance from the combination of:

- Surplus revenue after debt service,
- Loan from the Water Replenishment District (WRD),
- Repayment to water of the interfund loan, and
- Bond proceeds made available.

Surplus revenue after debt service is relatively high, ranging from just over $1 million in FY20/21, down to $700,000 in in FY28/29. This is the result of planning a healthy debt service coverage ratio and needing access to funds for CIP investments beyond the $15 million in bond proceeds.

The loan from WRD is for specific water well work. This is $1.5 million at zero interest amortized over ten years.

The FY17/18 audit also shows the current balance owed to water from other funds, which is relatively large at $11,311,300.[6] The city's plan is for this amount to be paid back to water, beginning with $5,061,803 in FY19/20, then followed by annual amounts that are six percent of revenue, based on the collected amount of UUT from water customers.

Bond proceeds of $15 million are projected to be available within FY19/20, then spent over the next three years. When bond funds are expended, "Pay-Go" funding will be used, which is utilization of accumulated and ongoing net revenue. Pay-Go amounts assigned to the fourth and fifth years total $6.4 million. Adding

[6] Vernon Public Utilities Annual Financial Report for the fiscal year ended June 30, 2018, page 46.

this to $15 million debt service funding approximates the five-year plan for capital expenditures of $21,432,999 in Attachment A.

Beginning with the FY17/18 audited financial statement, a value is assigned to "cash and investments" for the water fund. The amount is $1,259,233[7]. Previously, cash in the water fund was accounted elsewhere. Tracking the ongoing cash balance within water operations is necessary, considering the planned strategy to use debt funding to support projects.

The fund balance is projected to be $10 million at the end of the 10-year period. This is approximately ten months revenue from rates and can be used as pay-go funding for projects moving forward potentially alleviating the need for additional debt service funding.

Proposed Rates

The present rate structure must be modified to achieve an immediate 13 percent increase in revenue combined with eliminating the five percent UUT credit. Together, these achieve an 18 percent overall revenue increase. The rate categories to be modified are shown under Service Category in the table below. These are divided between variable charges (dependent on the volume of metered water) and fixed charges (constant each month). The comparisons in the bar charts above include the full 18 percent increase.

A second rate-setting option is to retain the five percent UUT credit but increase revenue from rates a full 18 percent. This option is not recommended because the water enterprise fund is paying the six percent UUT to the general fund anyway. Continuing the credit could confuse customers regarding funds used for the water enterprise vs funds collected through the UUT for transfer to the general fund. Nonetheless, a revenue and expense model, allocation model, and rate table are shown for this option in Attachment E.

The existing allocation yields 70 percent of revenue from variable charges and 30 percent from fixed charges. A primary rate setting objective is to increase the portion of revenue from fixed charges. Doing so provides better revenue stability and assigns costs incurred more accurately to customers.[8] The right side of the table shows the proposed new balance of variable vs fixed revenue. The fixed contribution is increased to 38 percent, and the variable contribution reduced to 62 percent.

The "% Change" values in the table for individual service categories were set to achieve the reallocated values on the right side of the table. Fixed monthly charges were increased first, increasing the monthly meter charge amounts by 100 percent to double them from the present levels. To simplify billing statements for fire service charges, the monthly charges for fire meters ($2 per customer per month) is eliminated. The sprinkler count charge is also eliminated. Both these charges are residual from historical rates, and both are relatively small revenue components. The lost revenue from eliminating these rate components is absorbed in the increased fire square footage charge.

The fire square footage component increase was limited to 14 percent, and the volumetric charge is not increased in the first year. The increase in the fire square footage charge was limited to prevent large monthly increases for customer with large buildings and low water consumption.

[7] Ibid.

[8] Primary variable costs are water and utilities (pumping), projected at $4.5 million in FY20/21. This is 56 percent of total operating expenses of $8 million. The balance of up to 44 percent can be assigned to rates to cover fixed costs. If annual capital investment is included, the fixed component would increase.

City of Vernon Water Rate Study Existing Revenue Allocation and Proposed Reallocation with Increases									
Service Category		**Existing**			**% Change**	**Reallocated with Increases**			
Variable Charges	**Metered Water**	$5,880,000	$5,900,000	70%	0.0%	$5,880,000	$5,900,000	62%	
	Fire: Metered Water	$20,000			0.0%	$20,000			
Fixed Monthly Charges	**Monthly Meter Charge**	$923,000	$2,560,000	30%	100.0%	$1,846,000	$3,666,580	38%	
	Fire: Meter Charge	$20,000			-100.0%	$0			
	Fire: Sprinkler Count	$20,000			-100.0%	$0			
	Fire: Square Footage	$1,597,000			14.0%	$1,820,580			
Totals		$8,460,000	$8,460,000	100%		$9,566,580	$9,566,580	100%	
	Increase First Year:	$1,099,800	13%		**Above (Below) Revenue Goal:**		$6,780		
	Revenue Goal:	$9,559,800							

The proposed water rate increase will have more impact on smaller water-consuming customers. These are about 500 customers, approximately half of all customers, and most have two-inch meters. These are small commercial customers where the proportion of monthly meter charge is greater than the proportion of water volume cost. Even so, the proposed rates assign costs in proportion to the customer's meter size and building size to be more consistent with the portion of fixed cost to operate Vernon's water system. This is reasonable because the water system is available to the customer to deliver water even though the customers usage may be low. The rate comparison bar charts show more of an increase for a typical smaller customer than for a typical larger customer. Smaller customers using less than 200 HCF per month will see larger monthly increases, up to 46 percent for a customer that uses no water in a month.[9]

The proposed rate table is given in Attachment C. It shows the present and proposed rates for each category of service. The increases applied in the first year are consistent with the table above. The increases for subsequent years are three percent applied evenly to all categories, except for the impact of the water cost adjustment mechanism.

A wholesale water cost adjustment mechanism is proposed to mitigate the impact of unanticipated increases from the combined costs of the Water Replenishment District and Central Basin. This mechanism is important because wholesale water costs are significant at approximately 40 percent of total operating cost, and the city cannot control the cost of wholesale water. Accordingly, to the extent wholesale water costs increase more than the forecast numbers in the expense section of Attachment B, the city will have the opportunity to pass through the added costs to customers through a rate adjustment beyond the three percent increases. To the extent wholesale water costs decrease below the forecast numbers, the city will have the opportunity to lower the planned three percent increases; however, such a decrease would also need to consider the balance of the overall expenses incurred during the review period. The intent will be to review the forecast vs actual costs annually; however, adjustments could be more frequent based on need. Language detailing the cost adjustment language will be written into the proposed resolution for the rate changes. An example tracking table is shown in Attachment D.

[9] Using the comparison of 50,000 sq. ft. and a two-inch meter, a customer using no water pays $228 now (with UUT Credit) and would pay $333 under the proposed rates (without UUT Credit). ($333-$228)/$228 x 100% = 46%

Conclusion

Projected revenues from rates need to increase 13 percent followed by consecutive three percent increases to cover increased operating costs, combined with debt service for $15 million. The 13 percent increase is dependent on removing the five percent UUT credit, such that customer pay the full six percent UUT. Repayment of intra-fund loans alleviates the need for added revenue increases. The overall revenue increase to the water enterprise will be approximately 18 percent. Rates are reset to shift revenue from volumetric to fixed monthly charges to provide greater revenue stability and more closely match the balance of fixed and variable expenses. A wholesale water cost adjustment clause is also included to cover unanticipated water cost increases beyond those forecasted in the study.

Attachment A

City of Vernon Water Division Projected 5-Year Capital Improvements (As of 5/30/19)					
	Year 1	Year 2	Year 3	Year 4	Year 5
Capital Outlay	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24
Well 5 Destruction	$ 125,000				
Well 11 Pump and Motor	$ 150,000				
Emergency Generator on Well 11	$ 300,000				
Well 20 Rehab	$ 550,000				
Emergency Generator on Well 20	$ 300,000				
Well 17 Rehabilitation	$ 600,000				
Well 22 Drilling and Casing	$ 2,050,000				
Well 22 Wellhead equipment	$ 1,800,000				
New Wells Wellhead Engineering & CM	$ 215,000			$ 215,000	
New Wells Drilling & Casing Construction Management	$ 155,000			$ 155,000	
Operations Analysis and MasterPlan	$ 300,000				
Reservoir condition assessments (6-1MG)	$ 12,000				
Elevated Tank Upgrades (automation)	$ 250,000				
Upgrades for 10MG Reservior (automation)		$ 250,000			
Emergency Generator on Well 22		$ 300,000			
Well 15 Rehab		$ 500,000			
Emergency Generator on Well 15		$ 300,000			
Reservoir Demo at Well 20		$ 100,000			
BP1, BP2, BP3 Engineering Design		$ 300,000			
BP1 Pump and Motor Revamp including Right-sizing		$ 500,000			
Emergency Generator on Booster Plant 1		$ 300,000			
BP3 Pump and Motor Revamp including Right-sizing		$ 500,000			
BP2 Reservoir Supply Redundancy		$ 100,000			
Repairs Reservoirs BP3 Design & Construction			$ 1,000,000		
BP2 Pump and Motor Revamp including Right-sizing			$ 500,000		
Repairs Reservoirs BP2 Design & Construction			$ 1,000,000		
Dock Demo at OE Clark			$ 254,000		
Well 23 Drilling and Casing				$ 2,240,090	
Well 23 Wellhead equipment				$ 1,966,909	
Emergency Generator on Well 23					$ 300,000
AMI Program	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000
Electrical Upgrades	$ 500,000	$ 250,000	$ 250,000		
SCADA	$ 250,000				
Pilot Main Replacement Program					$ 1,000,000
Packers/Exchange and Downey Rd Pipeline Extension					$ 100,000
Pump House 2 Refurbishment					$ 40,000
Fence Replacement PP2 & Well 19					$ 30,000
Subtotal Capital Outlay	**$ 7,657,000**	**$ 3,500,000**	**$ 3,104,000**	**$ 4,676,999**	**$ 1,570,000**
Capital Equipment and Vehicles					
Light Utility Vehicle Meter Readers	$ 30,000		$ 30,000		
Construction Truck	$ 120,000		$ 120,000		$ 120,000
Boom Truck	$ 260,000				
Pax Mixer for 10 MG Reservoir	$ 70,000				
Auto Chlorination 10 MG Reservoir	$ 35,000				
Dump Truck	$ 80,000				
Ford F-250 Utility Truck		$ 60,000			
Subtotal Capital Equipment and Vehicles	**$ 595,000**	**$ 60,000**	**$ 150,000**	**$ -**	**$ 120,000**
Annual Total	**$ 8,252,000**	**$ 3,560,000**	**$ 3,254,000**	**$ 4,676,999**	**$ 1,690,000**
Cumulative Total	**$ 8,252,000**	**$ 11,812,000**	**$ 15,066,000**	**$ 19,742,999**	**$ 21,432,999**

Attachment B

Vernon Water Enterprise Revenue and Expense Projections (with UUT Credit ending 1/1/20)

	2016/17[2]	2017/18	2018/19	2019/20 Yr1	2020/21 Yr 2	2021/22 Yr 3	2022/23 Yr 4	2023/24 Yr 5	2024/25 Yr 6	2025/26 Yr 7	2026/27 Yr 8	2027/28 Yr 9	2028/29 Yr 10	
	Audited	Audit	Preliminary	Budget	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	
REVENUES			*Revenue Increases:[3]*	*13.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	
Water Sales	8,350,170	8,353,756	*8,400,000*	*8,973,000*	*9,833,000*	*10,128,000*	*10,432,000*	*10,745,000*	*11,067,000*	*11,399,000*	*11,741,000*	*12,093,000*	*12,456,000*	
Fire Service (non sq foot charge)	64,835	53,673	*60,000*	*40,000*	*21,000*	*22,000*	*23,000*	*24,000*	*25,000*	*26,000*	*27,000*	*28,000*	*29,000*	
VPU UUT Credit ending Jan 1, 2020	-	-	*$423,000*	*$211,500*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	
Construction Revenue	246,200	362,533	*50,000*	*50,000*	*50,000*	*50,000*	*50,000*	*50,000*	*50,000*	*50,000*	*50,000*	*50,000*	*50,000*	
Installation Charges	2,200	2,000	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*	
Recycled Water	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Other / Replenishment Water Lease		485,551	285,000	200,000	-	-	-	-	-	-	-	-	-	
Total Revenues	**8,663,405**	**9,257,513**	**9,220,000**	**9,476,500**	**9,906,000**	**10,202,000**	**10,507,000**	**10,821,000**	**11,144,000**	**11,477,000**	**11,820,000**	**12,173,000**	**12,537,000**	
EXPENSES[1]														
Personnel	1,588,569	2,443,331	2,400,000	*2,205,476*	*2,338,000*	*2,478,000*	*2,627,000*	*2,785,000*	*2,952,000*	*3,129,000*	*3,317,000*	*3,516,000*	*3,727,000*	*6.0%*
Pumped Water - Replenishment District	1,926,187	2,070,470	2,023,810	*2,107,875*	*2,568,312*	*2,645,000*	*2,724,000*	*2,806,000*	*2,890,000*	*2,977,000*	*3,066,000*	*3,158,000*	*3,253,000*	*3.0%*
Purchased Water - Central Basin	731,453	876,450	918,226	*1,506,785*	*$496,314*	*516,000*	*537,000*	*558,000*	*580,000*	*603,000*	*627,000*	*652,000*	*678,000*	*4.0%*
Water Treatment	30,534	29,760	30,000	*69,060*	*70,000*	*71,000*	*72,000*	*73,000*	*74,000*	*75,000*	*77,000*	*79,000*	*81,000*	*2.0%*
Supplies	152,823	219,295	224,000	*186,825*	*191,000*	*195,000*	*199,000*	*203,000*	*207,000*	*211,000*	*215,000*	*219,000*	*223,000*	*2.0%*
Bad Debt	135,118	30,832	31,000	*40,800*	*42,000*	*43,000*	*44,000*	*45,000*	*46,000*	*47,000*	*48,000*	*49,000*	*50,000*	*2.0%*
Utilities	1,117,982	1,219,277	1,219,000	1,312,000	*1,364,000*	1,419,000	1,476,000	1,535,000	1,596,000	1,660,000	1,726,000	1,795,000	1,867,000	*4.0%*
Vehicles	100,493	67,855	69,000	*99,400*	*101,000*	*103,000*	*105,000*	*107,000*	*109,000*	*111,000*	*113,000*	*115,000*	*117,000*	*2.0%*
Repair & Maintenance	115,588	88,720	90,000	*100,000*	*102,000*	*104,000*	*106,000*	*108,000*	*110,000*	*112,000*	*114,000*	*116,000*	*118,000*	*2.0%*
Professional Services	63,495	196,018	70,000	*80,000*	*82,000*	*84,000*	*86,000*	*88,000*	*90,000*	*92,000*	*94,000*	*96,000*	*98,000*	*2.0%*
Membership Dues	22,009	18,329	19,000	*16,354*	*17,000*	*17,000*	*17,000*	*17,000*	*17,000*	*17,000*	*17,000*	*17,000*	*17,000*	*2.0%*
Other Misc	22,172	25,766	26,000	*39,900*	*41,000*	*42,000*	*43,000*	*44,000*	*45,000*	*46,000*	*47,000*	*48,000*	*49,000*	*2.0%*
Purchased Recycled Water	n/a	n/a	n/a	n/a	*n/a*	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*2.0%*
City Allocated Administrative Cost	575,000	575,000	575,000	586,500	598,000	610,000	622,000	634,000	647,000	660,000	673,000	686,000	700,000	*2.0%*
Capital Project Work	932,659	188,017	-	-	-	-	-	-	-	-	-	-	-	
Total Expenses	**7,514,082**	**8,049,120**	**7,695,036**	**8,350,975**	**8,010,626**	**8,327,000**	**8,658,000**	**9,003,000**	**9,363,000**	**9,740,000**	**10,134,000**	**10,546,000**	**10,978,000**	
Net Revenue available for Debt Service	**$1,149,323**	**$1,208,393**	**$1,524,964**	**$1,125,525**	**$1,895,374**	**$1,875,000**	**$1,849,000**	**$1,818,000**	**$1,781,000**	**$1,737,000**	**$1,686,000**	**$1,627,000**	**$1,559,000**	
Debt Service ($15M, 3.6%, 30 yr)	-	-	-	**$413,000**	**$826,000**	**$826,000**	**$826,000**	**$826,000**	**$826,000**	**$826,000**	**$826,000**	**$826,000**	**$826,000**	
Debt Service Coverage Ratio	-	-	-	**2.73**	**2.29**	**2.27**	**2.24**	**2.20**	**2.16**	**2.10**	**2.04**	**1.97**	**1.89**	
Surplus Revenue after Debt Service	-	-	$1,524,964	$712,525	$1,069,374	$1,049,000	$1,023,000	$992,000	$955,000	$911,000	$860,000	$801,000	$733,000	
WRD Loan ($1.5M, 0%, 10yr)	-	-	-	-	(62,500)	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)	
Interfund Loan Repayment	-	-	4,215,803	538,380	589,980	607,680	625,920	644,700	664,020	683,940	704,460	725,580	747,360	
Bond Finance Project Fund	-	-	-	15,000,000	(8,252,000)	(3,519,000)	(3,229,000)	-	-	-	-	-	-	
Pay-Go Capital Expenditures	-	-	-	(600,000)	0	0	0	(4,700,000)	(1,700,000)	(1,000,000)	(1,000,000)	(1,000,000)	(1,000,000)	
"Total Current Assets"[4]		$1,259,233	$7,000,000	$22,650,905	$15,995,759	$13,983,439	$12,253,359	$9,040,059	$8,809,079	$9,254,019	$9,668,479	$10,045,059	$10,375,419	

Footnotes

1. Excludes depreciation and amortization

2. Excludes recycle water revenue and expense beginning FY17

3. The Revenue increases for Water Sales and Fire Service (non Sq foot charge) for FY19/20 and FY20/21 are shown to be consistent with 1) elimination of fire service charges for meters and sprinkler count, and 2) a partial year increase in FY19/20.

4. From audited financial statements, or otherwise based on projected based on changes in revenue vs expense

City of Vernon Water Rate Schedule							
Proposed without cost coverage to pay for 5% UUT Credit							
Category of Service	**Present Rates**	**Year 1**		**Year 2***	**Year 3***	**Year 4***	**Year 5***
		Changes: Various		**3.0%**	**3.0%**	**3.0%**	**3.0%**
General Water Service							
Rate per HCF for all use	$2.206	$2.206	0.0%	$2.270	$2.340	$2.410	$2.480
Monthly Meter Charges							
5/8" Meter	$8.23	$16.46	100%	$16.95	$17.46	$17.98	$18.52
3/4"	$12.34	$24.68	100%	$25.42	$26.18	$26.97	$27.78
1"	$20.57	$41.14	100%	$42.37	$43.64	$44.95	$46.30
1 - 1/2"	$41.15	$82.30	100%	$84.77	$87.31	$89.93	$92.63
2"	$65.84	$131.68	100%	$135.63	$139.70	$143.89	$148.21
3"	$123.45	$246.90	100%	$254.31	$261.94	$269.80	$277.89
4"	$205.75	$411.50	100%	$423.85	$436.57	$449.67	$463.16
6"	$411.50	$823.00	100%	$847.69	$873.12	$899.31	$926.29
8"	$658.41	$1,316.82	100%	$1,356.32	$1,397.01	$1,438.92	$1,482.09
Fire Service Charges							
Cost per Square Foot of Fire-Protected Building Space per Month	$0.00319	$0.00364	14%	$0.00375	$0.00386	$0.00398	$0.00410
Cost per each Fire-Related Meter per Month	$2.00	Fee Removed to be Covered by Square Footage Cost					
Cost per Sprinkler Head per Month (Miniumim Rate)	$0.25	Fee Removed to be Covered by Square Footage Cost					
Construction Hydrant Usage							
Refundable Meter Deposit	$800.00	$ 800.00	0%	$800.00	$800.00	$800.00	$800.00
Installation and removal	$200.00	$200.00	0%	$200.00	$200.00	$200.00	$200.00
Rate per HCF for all use	$2.206	$2.206	0.0%	$2.270	$2.340	$2.410	$2.480
Notes:							
* Rate changes during years 2 through 5 may vary depending on the impact of the w holesale w ater cost adjustment mechanism.							

Attachment D

Wholesale Water Cost Adjustment Mechanism (Example)

Step 1: Account for forecast costs of water from revenue/expense model in rate study.
Step 2: Account for actual costs of water at the end of each fiscal year.
Step 3: Calculate the added charge per unit of water sold based on volume sales forecast.
Step 4: Consider the impact of changes in other expenses.
Step 5: Determine the pass-through amount to be used, documenting rationale for public review when requested

		Forecast Costs from 2019 Rate Study			Actual Costs during Fiscal Year			
Year	Fiscal Year	Water Replenishment District	Central Basin	Total Forecast Cost	Water Replenishment District	Central Basin	Total Actual Cost	**Over-recover (Under-recover)**
1	20/21	$2,568,312	$496,314	$3,064,626				
2	21/22	$2,645,000	$516,000	$3,161,000				
3	22/23	$2,724,000	$537,000	$3,261,000				
4	23/24	$2,806,000	$558,000	$3,364,000				
5	24/25	$2,890,000	$580,000	$3,470,000				

		Forecast Sales Volume (CCF)	**Over-recover (Under-recover)**	**Added Charge or (Credit) ($/CCF)**
2	21/22			
3	22/23			
4	23/24			
5	24/25			

Attachment E (Continuation of 5% UUT Credit)

City of Vernon Water Enterprise Revenue and Expense Projections (WITH CONTINUATION OF 5% VPU UUT CREDIT)

	2016/17[2]	2017/18	2018/19	2019/20 Yr1	2020/21 Yr 2	2021/22 Yr 3	2022/23 Yr 4	2023/24 Yr 5	2024/25 Yr 6	2025/26 Yr 7	2026/27 Yr 8	2027/28 Yr 9	2028/29 Yr 10	
	Audited	Audit	Preliminary	Budget	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	
REVENUES			*Revenue Increases:*[3]	*18.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	
Water Sales	8,350,170	8,353,756	*8,400,000*	*9,138,000*	*10,265,000*	*10,573,000*	*10,890,000*	*11,217,000*	*11,554,000*	*11,901,000*	*12,258,000*	*12,626,000*	*13,005,000*	
Fire Service (non sq foot charge)	64,835	53,673	*60,000*	*41,000*	*22,000*	*23,000*	*24,000*	*25,000*	*26,000*	*27,000*	*28,000*	*29,000*	*30,000*	
VPU UUT Credit beginning FY19	-	-	***($423,000)***	***($458,950)***	***($514,350)***	***($529,800)***	***($545,700)***	***($562,100)***	***($579,000)***	***($596,400)***	***($614,300)***	***($632,750)***	***($651,750)***	
Construction Revenue	246,200	362,533	*50,000*	*50,000*	*50,000*	*50,000*	*50,000*	*50,000*	*50,000*	*50,000*	*50,000*	*50,000*	*50,000*	
Installation Charges	2,200	2,000	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*	
Recycled Water	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Other / Replenishment Water Lease		485,551	285,000	200,000	-	-	-	-	-	-	-	-	-	
Total Revenues	**8,663,405**	**9,257,513**	**8,374,000**	**8,972,050**	**9,824,650**	**10,118,200**	**10,420,300**	**10,731,900**	**11,053,000**	**11,383,600**	**11,723,700**	**12,074,250**	**12,435,250**	
EXPENSES[1]														
Personnel	1,588,569	2,443,331	2,400,000	*2,205,476*	*2,338,000*	*2,478,000*	*2,627,000*	*2,785,000*	*2,952,000*	*3,129,000*	*3,317,000*	*3,516,000*	*3,727,000*	*6.0%*
Pumped Water - Replenishment District	1,926,187	2,070,470	2,023,810	*2,107,875*	*2,568,312*	*2,645,000*	*2,724,000*	*2,806,000*	*2,890,000*	*2,977,000*	*3,066,000*	*3,158,000*	*3,253,000*	*3.0%*
Purchased Water - Central Basin	731,453	876,450	918,226	*1,506,785*	*$496,314*	*516,000*	*537,000*	*558,000*	*580,000*	*603,000*	*627,000*	*652,000*	*678,000*	*4.0%*
Water Treatment	30,534	29,760	30,000	*69,060*	*70,000*	*71,000*	*72,000*	*73,000*	*74,000*	*75,000*	*77,000*	*79,000*	*81,000*	*2.0%*
Supplies	152,823	219,295	224,000	*186,825*	*191,000*	*195,000*	*199,000*	*203,000*	*207,000*	*211,000*	*215,000*	*219,000*	*223,000*	*2.0%*
Bad Debt	135,118	30,832	31,000	*40,800*	*42,000*	*43,000*	*44,000*	*45,000*	*46,000*	*47,000*	*48,000*	*49,000*	*50,000*	*2.0%*
Utilities	1,117,982	1,219,277	1,219,000	1,312,000	*1,364,000*	1,419,000	1,476,000	1,535,000	1,596,000	1,660,000	1,726,000	1,795,000	1,867,000	*4.0%*
Vehicles	100,493	67,855	69,000	*99,400*	*101,000*	*103,000*	*105,000*	*107,000*	*109,000*	*111,000*	*113,000*	*115,000*	*117,000*	*2.0%*
Repair & Maintenance	115,588	88,720	90,000	*100,000*	*102,000*	*104,000*	*106,000*	*108,000*	*110,000*	*112,000*	*114,000*	*116,000*	*118,000*	*2.0%*
Professional Services	63,495	196,018	70,000	*80,000*	*82,000*	*84,000*	*86,000*	*88,000*	*90,000*	*92,000*	*94,000*	*96,000*	*98,000*	*2.0%*
Membership Dues	22,009	18,329	19,000	*16,354*	*17,000*	*17,000*	*17,000*	*17,000*	*17,000*	*17,000*	*17,000*	*17,000*	*17,000*	*2.0%*
Other Misc	22,172	25,766	26,000	*39,900*	*41,000*	*42,000*	*43,000*	*44,000*	*45,000*	*46,000*	*47,000*	*48,000*	*49,000*	*2.0%*
Purchased Recycled Water	n/a	n/a	n/a	n/a	*n/a*	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*2.0%*
City Allocated Administrative Cost	575,000	575,000	575,000	586,500	598,000	610,000	622,000	634,000	647,000	660,000	673,000	686,000	700,000	*2.0%*
Capital Project Work	932,659	188,017	-	-	-	-	-	-	-	-	-	-	-	
Total Expenses	**7,514,082**	**8,049,120**	**7,695,036**	**8,350,975**	**8,010,626**	**8,327,000**	**8,658,000**	**9,003,000**	**9,363,000**	**9,740,000**	**10,134,000**	**10,546,000**	**10,978,000**	
Net Revenue available for Debt Service	**$1,149,323**	**$1,208,393**	**$678,964**	**$621,075**	**$1,814,024**	**$1,791,200**	**$1,762,300**	**$1,728,900**	**$1,690,000**	**$1,643,600**	**$1,589,700**	**$1,528,250**	**$1,457,250**	
Debt Service ($15M, 3.6%, 30 yr)	-	-	-	**$413,000**	**$826,000**	**$826,000**	**$826,000**	**$826,000**	**$826,000**	**$826,000**	**$826,000**	**$826,000**	**$826,000**	
Debt Service Coverage Ratio	-	-	-	**1.50**	**2.20**	**2.17**	**2.13**	**2.09**	**2.05**	**1.99**	**1.92**	**1.85**	**1.76**	
Surplus Revenue after Debt Service	-	-	$678,964	$208,075	$988,024	$965,200	$936,300	$902,900	$864,000	$817,600	$763,700	$702,250	$631,250	
WRD Loan ($1.5M, 0%, 10yr)	-	-	-	-	(62,500)	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)	
Interfund Loan Repayment	-	-	5,061,803	548,280	615,900	634,380	653,400	673,020	693,240	714,060	735,480	757,560	780,300	
Bond Finance Project Fund	-	-	-	15,000,000	(8,252,000)	(3,519,000)	(3,229,000)	-	-	-	-	-	-	
Pay-Go Capital Expenditures	-	-	-	(600,000)	0	0	0	(4,700,000)	(1,700,000)	(1,000,000)	(1,000,000)	(1,000,000)	(1,000,000)	
"Total Current Assets"[4]		$1,259,233	$7,000,000	$22,156,355	$15,445,779	$13,376,359	$11,587,059	$8,312,979	$8,020,219	$8,401,879	$8,751,059	$9,060,869	$9,322,419	

Footnotes

1. Excludes depreciation and amortization

2. Excludes recycle water revenue and expense beginning FY17

3. The Revenue increases for Water Sales and Fire Service (non Sq foot charge) shown for FY19/20 and FY20/21 are shown to be consistent with 1) elimination of fire service charges for meters and sprinkler count, and 2) a partial year increase in FY19/20.

4. From audited financial statements, or otherwise based on projected based on changes in revenue vs expense

City of Vernon Water Rate Study Update

Existing Revenue Allocation and Proposed Reallocation with Increases

Service Category		Existing			% Change	Reallocated with Increases		
Variable Charges	Metered Water	$5,880,000	$5,900,000	70%	5.5%	$6,203,400	$6,224,500	62%
	Fire: Metered Water	$20,000			5.5%	$21,100		
Fixed Monthly Charges	Monthly Meter Charge	$923,000	$2,560,000	30%	100.0%	$1,846,000	$3,762,400	38%
	Fire: Meter Charge	$20,000			-100.0%	$0		
	Fire: Sprinkler Count	$20,000			-100.0%	$0		
	Fire: Square Footage	$1,597,000			20.0%	$1,916,400		
Totals		$8,460,000	$8,460,000	100%		$9,986,900	$9,986,900	100%
	Increase First Year:	$1,522,800	18%		Above (Below) Revenue Goal:	$4,100		
	Revenue Goal:	$9,982,800						

City of Vernon Water Rate Schedule

Category of Service	Present Rates	Year 1		Year 2*	Year 3*	Year 4*	Year 5*
		Changes: Various		3.0%	3.0%	3.0%	3.0%
General Water Service							
Rate per HCF for all use	$2.206	$2.327	5.5%	$2.400	$2.470	$2.540	$2.620
Monthly Meter Charges							
5/8" Meter	$8.23	$16.46	100%	$16.95	$17.46	$17.98	$18.52
3/4"	$12.34	$24.68	100%	$25.42	$26.18	$26.97	$27.78
1"	$20.57	$41.14	100%	$42.37	$43.64	$44.95	$46.30
1 - 1/2"	$41.15	$82.30	100%	$84.77	$87.31	$89.93	$92.63
2"	$65.84	$131.68	100%	$135.63	$139.70	$143.89	$148.21
3"	$123.45	$246.90	100%	$254.31	$261.94	$269.80	$277.89
4"	$205.75	$411.50	100%	$423.85	$436.57	$449.67	$463.16
6"	$411.50	$823.00	100%	$847.69	$873.12	$899.31	$926.29
8"	$658.41	$1,316.82	100%	$1,356.32	$1,397.01	$1,438.92	$1,482.09
Fire Service Charges							
Cost per Square Foot of Fire-Protected Building Space per Month	$0.00319	$0.00383	20%	$0.00394	$0.00406	$0.00418	$0.00431
Cost per each Fire-Related Meter per Month	$2.00	Fee Removed to be Covered by Square Footage Cost					
Cost per Sprinkler Head per Month (Minimum Rate)	$0.25	Fee Removed to be Covered by Square Footage Cost					
Construction Hydrant Usage							
Refundable Meter Deposit	$800.00	$800.00	0%	$800.00	$800.00	$800.00	$800.00
Installation and removal	$200.00	$200.00	0%	$200.00	$200.00	$200.00	$200.00
Rate per HCF for all use	$2.206	$2.327	5.5%	$2.400	$2.470	$2.540	$2.620

Notes:

* Rate changes during years 2 through 5 may vary depending on the impact of the w holesale w ater cost adjustment mechanism.