Santa Clara Valley Water District

MEMORANDUM
FC 14 (01-02-07)

TO: Darin Taylor, Chief Financial Officer

CC: Expedited Purified Water Program Strategy Committee
Susan Stanton, Chief Operating Officer, Admin. Services

FROM: Charlene Sun, Treasury/Debt Officer

Ed Soong, Public Resources Advisory Group

SUBJECT: Analysis of Financing Strategy Options

DATE: May 30, 2017

Executive Summary

An analysis was conducted on various financing options potentially available to the District for funding future capital improvements. The following five financing options were incorporated into the analysis.

- Options A, B and C are financing approaches for the District to consider if the District designs, builds and finances the project;
- Options D and E are financing approaches to consider with a Public-Private-Partnership (P3) project delivery model.

Option A (TE):	Traditional tax-exempt bonds;
Option B (WIFIA + TE):	Water Infrastructure Finance and Innovation Act (WIFIA) loan, supplemented by tax-exempt bonds;
Option C (SRF + TE):	State Water Resources Control Board Clean Water State Revolving Fund (SRF) loan, supplemented by tax-exempt bonds;
Option D (PAB + Private):	Private activity bonds (PAB) combined with a private subordinate loan (traditional P3 financing approach)
Option E (WIFIA + PAB+Private):	WIFIA loan, supplemented by a combination of PABs and a private subordinate loan (WIFIA enhanced P3 financing approach)

There are pros and cons for each option and certain requirements must be met before the District can select the optimal financing option. Assuming an initial project budget of $600M financed with 70% debt and 30% pay-go, the details of the financing analysis is summarized in Table 1 below.

Table 1 – Summary of Financing 70% of $600M Project Budget

($M)	Opt A (TE)	Opt B (WIFIA + TE)	Opt C (SRF + TE)	Opt D (PAB + Private)	Opt E (WIFIA + PAB+Private)
30-Year NPV Cost*	$359.9	$314.2	$284.7	$420.4	$351.5
Vs. Option A	--	-45.7	-75.2	+60.5	-8.3
Minimum Requirements	--	(1) Min. WIFIA loan size $140M**; (2) Refund District senior debt (min. cost est. $6M+) (3) Availability of WIFIA (4) Additional finance FTEs to administer the WIFIA program	(1) Min. SRF loan size $60M**; (2) Availability of SRF (3) Additional finance FTEs to administer the SRF program	(1) P3 RFP; (2) Availability of PABs	(1) P3 RFP; (2) Availability of WIFIA
Pros	Most flexible	Lower financing cost	Lowest financing cost	Risk transfer	Risk transfer with lower financing cost
Cons	More costly	(1) Risk of higher cost to refund senior debt (2) Risk of not securing the min. WIFIA loan (3) Likely limitation on commercial paper (+$5M) and variable rate exposure (+$4.3M) (4) Administrative burden of WIFIA loan	(1) Lack of SRF loan capacity (2) Possible limitation on commercial paper (+$5M) and variable rate (+$4.3M) exposure (3) Administrative burden of SRF loan	More costly	Risk of not securing the WIFIA loan and lower cost transfer to District

* Debt service and NPV costs based on rate scales for MMD and U.S. Treasury as of 4/5/2017.
** Minimum loan sizes for WIFIA and SRF represent the amount of loan required to generate at least $10-15M in NPV cost savings net of all expenses.

Conclusion

Based on the analysis presented in this memorandum, staff's recommendation is as follows:

1. If the Board directs staff to pursue a P3 approach, staff would require the P3 entities to apply for all eligible federal and/or state financings (e.g. WIFIA/SRF) and pass the savings back to the District.

2. If the Board directs staff to pursue design-build project delivery method, then staff would try to apply for a minimum of $60M in SRF loan to the extent SRF loan is available. If SRF is not available, but WIFIA is available, then staff would try to pursue WIFIA and negotiate with the EPA to allow the District a certain time period to refund the senior debt after a minimum of $140M in WIFIA loan is secured. If the EPA does not have the flexibility to allow for a refunding period, then WIFIA would not be an option for the District.

Assumptions

Each financing scenario assumes $600 million of capital improvements with 30% ($180 million) funded from an equity contribution by the District. The analysis considers a variety of borrowing options for the $420 million of debt funded capital. Each scenario shares certain other common assumptions, including: (i) settlement date of June 1, 2017, (ii) level debt service amortization over 30 years, (iii) alignment of principal payment to June 1st, (iv) interest rates as of April 5, 2017, (v) standard terms for each financing structure (e.g., 10-year par call for tax-exempt bonds), (vi) underwriter's discount of $5 per bond for publicly sold debt, (vii) costs of issuance ranging from $300,000 to $500,000 depending on the size of the financing (except in the cases noted below), and (vii) calculating coverage based on Fiscal Year 2015-16 net available revenues of $72.8 million, assuming no growth in future years.

Other assumptions unique to each scenario are also described below.

Option A – Tax-exempt bond issuance

The Tax-Exempt bond issuance is the base case for the analysis, as it is the traditional method for the District to finance capital improvements and is subject to minimal execution risk.

Option B – WIFIA loan with tax-exempt bond issuance

A WIFIA loan, established as a credit program administered by the Environmental Protection Agency (EPA) for eligible projects, may be a low-cost loan option for the District which can finance up to 49% of project costs. The time required from application submission to EPA approval to funding will vary, as the precise mechanics and administration of the program are still under development.

Under this scenario, 49% of the entire $600 million capital improvement cost, or $294 million, is assumed to be financed by WIFIA loans, leaving $126 million to be financed with tax-exempt bonds after the 30% ($180 million) District equity contribution. The WIFIA loan rate is assumed to be 2.64%, which is one basis point over the published State and Local Government Obligation rate matching the average life of the loan. It should be noted that the relative benefit of the WIFIA loan option will depend in part on the relationship between tax-exempt rates (including movement in credit spreads) and U.S. Treasury yields. The upfront cost for the WIFIA loan is assumed to be $1.5 million (in addition to the cost for the supplemental tax-exempt issue), which costs will likely be payable even if the WIFIA loan is not consummated. Additionally, depending on how the EPA views the District's existing Series 2007B Certificates of Participation, which exist on a senior lien and are floating rate obligations indexed to LIBOR, the EPA may require the District to refinance these obligations into a fixed rate obligations instead of the current assumption of refinancing as parity variable rate debt, resulting in significantly higher debt service costs to the District. For this analysis, such a fixed rate refinancing has not been incorporated into the results, but is estimated to potentially cost the District NPV $4.3 million. In addition, the EPA may require limitations on both the use of commercial paper to fund construction costs, and on the future issuance of low-cost variable rate obligations. In the current market, the forgone savings are estimated as follows: (1) for every $100 million of commercial paper issued it is estimated to cost the District approximately $2.5 million in additional costs per year; and (2) if there are no future issuance (the EPA may allow a limited amount of variable rate exposure) of variable rate obligations, it is estimated to cost the District be approximately $800,000 in additional costs per year.

Option C – SRF loan with tax-exempt bond issuance

Another governmental loan program is the SRF loan program administered by the California State Water Resources Control Board (SWRCB). With the relaxation of some past funding requirements and extensive marketing on the part of the SWRCB, demand for this subsidized program has increased over the recent years. For the purposes of the analysis, the same maximum funding ratio as the WIFIA loan (i.e., 49% of overall capital expenditures) was applied to the SRF scenario with the balance funded by tax-exempt bonds. The rate for the SRF loan program is based on one-half of the true interest cost of the most recent State General Obligation Bond issue. As of March 9, 2017, the current rate is 1.8%. The upfront cost for the SRF loan was assumed to be $60,000 to cover legal, advisory, and other expenses.

Option D – PABs with private subordinate debt

The financing of the capital improvements by a third party will recover capital costs as an operating expense to the District. The PABs are assumed to be tax-exempt bonds, subject to Alternative Minimum Tax (AMT), which would require a debt service reserve fund equal to maximum annual debt service (MADS). The private subordinate loan is assumed to fund $60 million (or 10%) of the overall capital expenditures at a borrowing rate of 10%. Both the PABs and the private subordinate debt, issued by a third party, will be included as an operating expense for the purpose of calculating Parity debt service coverage. However, the rating agencies may still require some level of coverage above 1.0x associated with the repayment of PABs and private subordinate debt.

Option E – A combination of the WIFIA loan, PABs, and private subordinate debt

Option E supplements the WIFIA loan with PABs and private subordinate debt. This option assumes 49% of the overall project fund is financed by the WIFIA loan and 10% by the private subordinate loan, leaving the remaining 11% (or $66 million) financed by PABs. Like Option D, the WIFIA loan, PABs and the subordinate private loan are not included in the Parity debt service coverage calculations (but some coverage may be required by the rating agencies). The other assumptions are the same as those found in the two earlier options.

Results of Analysis

The results of the analysis are summarized in the Table 2 below.

Table 2 – Detailed Financial Analysis

($ in thousands)	Option A	Option B	Option C	Option D	Option E
	Tax Exempt Bonds	**49% WIFIA w/ Tax-Exempt Bonds**	**49% SRF w/ Tax-Exempt Bonds**	**PABs w/ 10% Private Sub. Debt**	**49% WIFIA, PABs, 10% Private Sub. Debt**
Sources					
Tax Exempt Bonds	368,960	111,600	111,600	--	--
Private Activity Bonds	--	--	--	343,435	63,605
Private Sub. Lien	--	--	--	61,745	61,745
WIFIA Loan	--	347,400	--	--	349,829
SRF Loan	--	--	332,655	--	--
Bond Premium	63,970	19,349	19,349	50,715	9,393
Total	**432,930**	**$478,349**	**$463,605**	**$455,895**	**$484,572**
Uses					
Project Fund	430,175	475,383	462,078	430,914	477,997
Reserve Fund	0	--	--	22,349	4,143
Costs of Issuance	900	2,400	960	900	2,100
Underwriter's Discount	1,845	558	558	1,717	318
Contingency	10	8	8	15	14
Total	**432,930**	**$478,349**	**$463,605**	**$455,895**	**$484,572**
True Interest Cost	3.697%	2.967%	2.419%	4.651%	3.884%
Net Interest	287,113	246,721	187,616	400,100	325,632
Net Debt Service	**720,043**	**725,070**	**651,221**	**833,646**	**806,062**
NPV, Net Debt Svc.*	**359,873**	**314,152**	**284,697**	**420,357**	**351,524**
Avg. Parity Coverage	1.351	1.348x	1.413x	1.467x	1.322x

* Excludes any cost associated with (1) the defeasance of outstanding variable rate debt and (2) restrictions on commercial paper or variable rate debt.

As shown above, the SRF loan supplemented by tax-exempt bonds (Option C) has the lowest net debt service at approximately $651 million and the lowest net present value (NPV) cost at approximately $285 million, which are $69 and $75 million less than the base case of using all tax-exempt bonds (Option A), respectively. This lower cost reflects the subsidized nature of the SRF funding program. Option D net debt service costs $60 million **more** than Option A on a NPV basis while Options B, C and E costs $45M, $75M, and $8M, and **less** than Option A, respectively. Lowering net debt service cost generally improves Parity debt service coverage as well. As a result, the SRF loan option also generates the second highest Parity debt service coverage ratio. However, because the PABs with private subordinate loans are treated as an operating cost, Option D actually results in the highest Parity debt service coverage (absent any required adjustments by the rating agencies). Identifying which financing structure from an economic perspective would best suit the District depends on the importance of higher debt service coverage ratios. There may be other considerations to consider in addition to cost and coverage, some of which are noted below.

Additional Considerations

In addition to cost and coverage, other important factors to take into consideration are the certainty of execution and ongoing administrative requirements. This is of particular significance for the WIFIA loan and SRF loan programs, which are dependent on the approval of another governmental entity, as to both qualification and to the amount of available funding. There can be a significant amount of time and effort expended by the District to secure funding for an SRF or a WIFIA loan. In addition, the costs to pursue a WIFIA loan could be in the hundreds of thousands of dollars and unrecoverable if a loan is not granted to the District.

It is also important to note that the use of alternative financing vehicles may subject the District to different ongoing administrative requirements than traditional fixed rate bonds. (The comparison is made with respect to traditional fixed rate bonds, because the District must already fulfill similar obligations for its existing bonds.) For example, in other Federal loan programs, borrowers have been required to provide annual financial reports which include maintaining an extensive financial plan related to the present and future financial condition of the source of the pledged revenues that is well beyond the scope of the District's audited financial statements. On the other hand, the SRF program has very little annual reporting requirements once the final loan disbursement is made.

Another cost is that the State and Federal sponsors of loan programs to municipalities generally do not look favorably on variable rate debt, including commercial paper programs; therefore, there is a strong possibility that the District would be limited in accessing such low-cost and flexible financing products. On the other hand, it is important to note that the SRF and WIFIA loans do not have any prepayment penalties, unlike the standard 10-year non-call period for traditional fixed rate municipal bonds.

Supplemental analyses were completed for those options which involve WIFIA or SRF loans – to determine the minimum loan amount required to achieve a target amount of NPV savings. For the WIFIA loan, the target was assumed to be $15 million, after considering the high upfront costs that may be at risk if a WIFIA loan is not secured and the possibility that the outstanding District's Series 2007B senior-lien LIBOR index-based bonds may need to be refunded on a parity basis at higher fixed interest rates. (The NPV cost of such a refunding is estimated to be $4.3 million.) For the SRF loan, the target was set slightly lower at $10 million, to reflect the reduction in administrative requirements. Based on the $15 million and $10 million NPV savings targets compared to a traditional fixed rate bonds (Option A), the results are the following:

(A) WIFIA loan of at least $140 million would be required to achieve the $15 million NPV savings threshold when supplemented by tax-exempt bonds;

(B) SRF loan of at least $60 million would be required to achieve the $10 million NPV savings threshold when supplemented by tax-exempt bonds.

Submitted by:

5/30/17

Charlene Sun, Treasury/Debt Officer

Approved by:

5/30/17

Darin Taylor, Chief Financial Officer

Santa Clara Valley Water District
Financing Options Analysis Summary
($ amounts in thousands)

	(A) Tax-Exempt Bond Issuance	(B) WIFIA Loan (49% WIFIA, w/ Tax-Exempt Bonds			
Sources	**Total**	**Total**	**Vs. (A)**	**Tax-Exempt Bonds**	**WIFIA Loan**
Par Amount	368,960	459,000	90,040	111,600	347,400
Premium	63,970	19,349	-44,620	19,349	
	432,930	478,349	45,420	130,949	347,400
Uses					
Project Fund	430,175	475,383	45,208	129,483	345,900
Debt Service Reserve Fund	0	0	0	0	0
Cost of Issuance	900	2,400	1,500	900	1,500
Underwriter's Discount	1,845	558	-1,287	558	0
Additional Proceeds	10	8	-2	8	
	432,930	478,349	45,420	130,949	347,400
True Interest Cost (TIC)	3.697%	2.967%	-0.731%	3.697%	2.623%
Total Net Interest	287,113	246,721	-40,393	86,841	159,880
Total DS	720,043	725,070	5,027	217,790	507,280
Total Net DS	720,043	725,070	5,027	217,790	507,280
NPV to 6/1/2017, Total Net DS [1]	359,873	314,152	-45,721	111,818	202,335
Breakeven Loan Issuance		Approximately $140mil in WIFIA Loans needed to cover for $15mil Savings + $6mil dissavings vs A			
Minimum Parity Coverage	1.351	1.348	-0.003		

Expenditures by Source		FY	Total	Tax Exempt Bonds	Cash		Total	Tax Exempt Bonds		WIFIA Loan		Cash
		2018	832	0	832		832	0		0		832
		2019	324	0	324	6/1/2019	324	0	6/1/2019	0		324
Assumptions:		2020	22,793	15,955	6,838		22,793	15,955		0		6,838
30 year ammortization schedule		2021	25,309	17,716	7,593	6/1/2021	25,309	17,716	6/1/2021	0	6/1/2021	7,593
Project Fund Investment Rate @	**0.50%**	2022	108,789	76,152	32,637		108,789	22,846		53,307		32,637
Rates as of 4/5/2017		2023	108,930	76,251	32,679	6/1/2023	108,930	22,875	6/1/2023	53,376		32,679
Net Revenue from ops		2024	108,930	76,251	32,679		108,930	22,875		53,376		32,679
(per 2016 CAFR) @	**72,800**	2025	108,930	76,251	32,679		108,930	22,875		53,376		32,679
No Net Revenue Growth		2026	108,930	76,251	32,679		108,930	5,057		71,194		32,679
		2027	25,579	18,518	7,061		25,579	0		18,518		7,061
			619,346	433,346	186,000		619,346	130,200		303,146		186,000
		% of Financing		70.0%	30.0%			21%		49%		30%

Fiscal Year Ending	Outstanding D/S [2][3] Senior	Parity	Principal	Interest	D/S	Parity D/S Coverage	Total Principal	Total Interest	Total D/S	Principal	Interest	D/S	Principal	Interest	D/S	Parity D/S Coverage
06/30/18	10,037	16,877				2.70										2.70
06/30/19	10,572	19,030				2.46										2.46
06/30/20	10,687	19,227	435	1,446	1,881	2.29	435	1,446	1,881	435	1,446	1,881				2.29
06/30/21	10,682	19,234	455	1,425	1,880	2.29	455	1,425	1,880	455	1,425	1,880				2.29
06/30/22	10,674	19,232	2,435	7,898	10,333	1.81	1,070	3,361	4,431	1,070	3,361	4,431				2.12
06/30/23	10,660	19,242	2,560	7,776	10,336	1.81	1,125	3,308	4,433	1,125	3,308	4,433				2.12
06/30/24	10,650	19,234	5,850	18,154	24,004	1.35	1,830	5,426	7,256	1,830	5,426	7,256				1.96
06/30/25	10,645	19,236	6,140	17,861	24,001	1.35	1,930	5,334	7,264	1,930	5,334	7,264				1.96
06/30/26	10,636	19,234	6,445	17,554	23,999	1.35	2,020	5,238	7,258	2,020	5,238	7,258				1.96
06/30/27	10,629	19,222	6,765	17,232	23,997	1.35	2,125	5,137	7,262	2,125	5,137	7,262				1.96
06/30/28	10,612	19,230	7,110	16,894	24,004	1.35	2,230	5,031	7,261	2,230	5,031	7,261				1.96
06/30/29	10,600	19,224	7,460	16,538	23,998	1.35	10,078	14,090	24,168	2,340	4,919	7,259	7,738	9,171	16,909	1.35
06/30/30	10,585	19,236	7,840	16,165	24,005	1.35	10,402	13,769	24,171	2,460	4,802	7,262	7,942	8,967	16,909	1.35
06/30/31	10,577	19,236	8,230	15,773	24,003	1.35	10,732	13,436	24,168	2,580	4,679	7,259	8,152	8,757	16,909	1.35
06/30/32	10,194	15,829	8,640	15,362	24,002	1.46	11,077	13,092	24,169	2,710	4,550	7,260	8,367	8,542	16,909	1.45
06/30/33	10,177	15,824	9,070	14,930	24,000	1.46	11,433	12,736	24,169	2,845	4,415	7,260	8,588	8,321	16,909	1.45
06/30/34	10,166	15,829	9,520	14,476	23,996	1.46	11,800	12,367	24,167	2,985	4,272	7,257	8,815	8,095	16,909	1.45
06/30/35	10,148	14,687	10,005	14,000	24,005	1.49	12,182	11,985	24,167	3,135	4,123	7,258	9,047	7,862	16,909	1.49
06/30/36	7,894	14,689	10,500	13,500	24,000	1.56	12,581	11,589	24,171	3,295	3,966	7,261	9,286	7,623	16,909	1.56
06/30/37	5,308	14,694	11,030	12,975	24,005	1.65	12,991	11,179	24,171	3,460	3,802	7,262	9,531	7,378	16,909	1.65
06/30/38		14,695	11,580	12,424	24,004	1.88	13,418	10,755	24,173	3,635	3,629	7,264	9,783	7,126	16,909	1.87
06/30/39		14,692	12,155	11,845	24,000	1.88	13,851	10,315	24,166	3,810	3,447	7,257	10,041	6,868	16,909	1.87
06/30/40		14,697	12,765	11,237	24,002	1.88	14,311	9,859	24,171	4,005	3,256	7,261	10,306	6,603	16,909	1.87
06/30/41		14,695	13,405	10,599	24,004	1.88	14,784	9,387	24,170	4,205	3,056	7,261	10,579	6,331	16,909	1.87
06/30/42		14,690	14,075	9,928	24,003	1.88	15,273	8,897	24,170	4,415	2,846	7,261	10,858	6,051	16,909	1.87
06/30/43		14,696	14,775	9,225	24,000	1.88	15,779	8,390	24,169	4,635	2,625	7,260	11,144	5,765	16,909	1.87
06/30/44		14,696	15,515	8,486	24,001	1.88	16,304	7,864	24,168	4,865	2,393	7,258	11,439	5,471	16,909	1.87
06/30/45		14,690	16,290	7,710	24,000	1.88	16,851	7,319	24,169	5,110	2,150	7,260	11,741	5,169	16,909	1.87
06/30/46		14,692	17,105	6,896	24,001	1.88	17,421	6,753	24,174	5,370	1,895	7,265	12,051	4,859	16,909	1.87
06/30/47			17,960	6,040	24,000	3.03	18,004	6,167	24,170	5,635	1,626	7,261	12,369	4,541	16,909	3.01
06/30/48			18,860	5,142	24,002	3.03	18,605	5,558	24,164	5,910	1,344	7,254	12,695	4,214	16,909	3.01
06/30/49			19,800	4,199	23,999	3.03	19,235	4,928	24,163	6,205	1,049	7,254	13,030	3,879	16,909	3.01
06/30/50			18,910	3,209	22,119	3.29	18,009	4,273	22,283	4,635	739	5,374	13,374	3,535	16,909	3.27
06/30/51			19,855	2,264	22,119	3.29	18,603	3,689	22,291	4,875	507	5,382	13,728	3,182	16,909	3.27
06/30/52			12,400	1,271	13,671	5.33	16,655	3,082	19,737	2,565	263	2,828	14,090	2,819	16,909	3.69
06/30/53			13,020	651	13,671	5.33	17,157	2,582	19,739	2,695	135	2,830	14,462	2,447	16,909	3.69
06/30/54							14,844	2,066	16,909				14,844	2,066	16,909	4.31
06/30/55							15,236	1,674	16,909				15,236	1,674	16,909	4.31
06/30/56							15,638	1,271	16,909				15,638	1,271	16,909	4.31
06/30/57							16,051	859	16,909				16,051	859	16,909	4.31
06/30/58							16,474	435	16,909				16,474	435	16,909	4.31
Total	**202,131**	**490,490**	**368,960**	**351,083**	**720,043**		**459,000**	**266,070**	**725,070**	**111,600**	**106,190**	**217,790**	**347,400**	**159,880**	**507,280**	

(1) Discounted to Tax-Exempt Bond Issuance Scenario TIC of
(2) Excludes debt service payments due on 6/1/2017
(3) Not inclusive of upcoming 2017 issuances
(4) D/S on the Private Activity and Subordinate Private Loan not included in Parity D/S Coverage Calculation

Additional Assumptions:
$300,000 Cost of Issuance per issuance

Additional Assumptions:
$300,000 Cost of Issuance for bonds
$1,500,000 Cost of Issuance for WIFIA Loan

Santa Clara Valley Water District
Financing Options Analysis Summary
($ amounts in thousands)

	(A) Tax-Exempt Bond Issuance	(C) SRF Loan (49% SRF, w/ Tax-Exempt Bonds)			
Sources	**Total**	**Total**	**Vs. (A)**	**Tax-Exempt Bonds**	**SRF Loan**
Par Amount	368,960	444,255	75,295	111,600	332,655
Premium	63,970	19,349	-44,620	19,349	
	432,930	463,605	30,675	130,949	332,655
Uses					
Project Fund	430,175	462,078	31,903	129,483	332,595
Debt Service Reserve Fund	0	0	0	0	0
Cost of Issuance	900	960	60	900	60
Underwriter's Discount	1,845	558	-1,287	558	0
Additional Proceeds	10	8	-2	8	
	432,930	463,605	30,675	130,949	332,655
True Interest Cost (TIC)	3.697%	2.419%	-1.279%	3.697%	1.792%
Total Net Interest	287,113	187,616	-99,497	86,841	100,776
Total DS	720,043	651,221	-68,822	217,790	433,431
Total Net DS	720,043	651,221	-68,822	217,790	433,431
NPV to 6/1/2017, Total Net DS (1)	359,873	284,697	-75,176	111,818	172,879
Breakeven Loan Issuance		Approximately $60mil in SRF Loans needed to cover for $15mil Savings vs A			
Minimum Parity Coverage	1.351	1.413	0.062		

Expenditures by Source		FY	Total	Tax Exempt Bonds	Cash		Total	Tax Exempt Bonds		SRF Loan		Cash
		2018	832	0	832		832	0		0		832
		2019	324	0	324	6/1/2019	324	0	6/1/2019	0		324
Assumptions:		2020	22,793	15,955	6,838		22,793	15,955		0		6,838
30 year ammortization schedule		2021	25,309	17,716	7,593	6/1/2021	25,309	17,716	6/1/2021	0	6/1/2021	7,593
Project Fund Investment Rate @	**0.50%**	2022	108,789	76,152	32,637		108,789	22,846		53,307		32,637
Rates as of 4/5/2017		2023	108,930	76,251	32,679	6/1/2023	108,930	22,875	6/1/2023	53,376		32,679
Net Revenue from ops		2024	108,930	76,251	32,679		108,930	22,875		53,376		32,679
(per 2016 CAFR) @	**72,800**	2025	108,930	76,251	32,679		108,930	22,875		53,376		32,679
No Net Revenue Growth		2026	108,930	76,251	32,679		108,930	5,057		71,194		32,679
		2027	25,579	18,518	7,061		25,579	0		18,518		7,061
			619,346	433,346	186,000		619,346	130,200		303,146		186,000
		% of Financing		70.0%	30.0%			21%		49%		30%

Fiscal Year Ending	Outstanding D/S (2)(3) **Senior**	**Parity**	**Principal**	**Interest**	**D/S**	**Parity D/S Coverage**	Total **Principal**	**Interest**	**D/S**	**Principal**	**Interest**	**D/S**	**Principa l**	**Interest**	**D/S**	**Parity D/S Coverage**
06/30/18	10,037	16,877				2.70										2.70
06/30/19	10,572	19,030				2.46										2.46
06/30/20	10,687	19,227	435	1,446	1,881	2.29	435	1,446	1,881	435	1,446	1,881				2.29
06/30/21	10,682	19,234	455	1,425	1,880	2.29	455	1,425	1,880	455	1,425	1,880				2.29
06/30/22	10,674	19,232	2,435	7,898	10,333	1.81	1,070	3,361	4,431	1,070	3,361	4,431				2.12
06/30/23	10,660	19,242	2,560	7,776	10,336	1.81	1,125	3,308	4,433	1,125	3,308	4,433				2.12
06/30/24	10,650	19,234	5,850	18,154	24,004	1.35	1,830	5,426	7,256	1,830	5,426	7,256				1.96
06/30/25	10,645	19,236	6,140	17,861	24,001	1.35	1,930	5,334	7,264	1,930	5,334	7,264				1.96
06/30/26	10,636	19,234	6,445	17,554	23,999	1.35	2,020	5,238	7,258	2,020	5,238	7,258				1.96
06/30/27	10,629	19,222	6,765	17,232	23,997	1.35	2,125	5,137	7,262	2,125	5,137	7,262				1.96
06/30/28	10,612	19,230	7,110	16,894	24,004	1.35	2,230	5,031	7,261	2,230	5,031	7,261				1.96
06/30/29	10,600	19,224	7,460	16,538	23,998	1.35	10,800	10,907	21,707	2,340	4,919	7,259	8,460	5,988	14,448	1.41
06/30/30	10,585	19,236	7,840	16,165	24,005	1.35	11,072	10,638	21,710	2,460	4,802	7,262	8,612	5,836	14,448	1.41
06/30/31	10,577	19,236	8,230	15,773	24,003	1.35	11,347	10,359	21,707	2,580	4,679	7,259	8,767	5,680	14,448	1.41
06/30/32	10,194	15,829	8,640	15,362	24,002	1.46	11,635	10,073	21,708	2,710	4,550	7,260	8,925	5,523	14,448	1.53
06/30/33	10,177	15,824	9,070	14,930	24,000	1.46	11,931	9,777	21,707	2,845	4,415	7,260	9,086	5,362	14,448	1.53
06/30/34	10,166	15,829	9,520	14,476	23,996	1.46	12,234	9,471	21,705	2,985	4,272	7,257	9,249	5,198	14,448	1.53
06/30/35	10,148	14,687	10,005	14,000	24,005	1.49	12,551	9,155	21,706	3,135	4,123	7,258	9,416	5,032	14,448	1.56
06/30/36	7,894	14,689	10,500	13,500	24,000	1.56	12,880	8,829	21,709	3,295	3,966	7,261	9,585	4,863	14,448	1.64
06/30/37	5,308	14,694	11,030	12,975	24,005	1.65	13,218	8,491	21,709	3,460	3,802	7,262	9,758	4,690	14,448	1.75
06/30/38		14,695	11,580	12,424	24,004	1.88	13,568	8,143	21,711	3,635	3,629	7,264	9,933	4,514	14,448	2.00
06/30/39		14,692	12,155	11,845	24,000	1.88	13,922	7,782	21,704	3,810	3,447	7,257	10,112	4,336	14,448	2.00
06/30/40		14,697	12,765	11,237	24,002	1.88	14,299	7,410	21,709	4,005	3,256	7,261	10,294	4,154	14,448	2.00
06/30/41		14,695	13,405	10,599	24,004	1.88	14,684	7,024	21,709	4,205	3,056	7,261	10,479	3,968	14,448	2.00
06/30/42		14,690	14,075	9,928	24,003	1.88	15,083	6,625	21,708	4,415	2,846	7,261	10,668	3,780	14,448	2.00
06/30/43		14,696	14,775	9,225	24,000	1.88	15,495	6,213	21,708	4,635	2,625	7,260	10,860	3,588	14,448	2.00
06/30/44		14,696	15,515	8,486	24,001	1.88	15,921	5,785	21,706	4,865	2,393	7,258	11,056	3,392	14,448	2.00
06/30/45		14,690	16,290	7,710	24,000	1.88	16,365	5,343	21,708	5,110	2,150	7,260	11,255	3,193	14,448	2.00
06/30/46		14,692	17,105	6,896	24,001	1.88	16,827	4,885	21,712	5,370	1,895	7,265	11,457	2,991	14,448	2.00
06/30/47			17,960	6,040	24,000	3.03	17,298	4,410	21,709	5,635	1,626	7,261	11,663	2,784	14,448	3.35
06/30/48			18,860	5,142	24,002	3.03	17,783	3,919	21,702	5,910	1,344	7,254	11,873	2,574	14,448	3.35
06/30/49			19,800	4,199	23,999	3.03	18,292	3,409	21,701	6,205	1,049	7,254	12,087	2,361	14,448	3.35
06/30/50			18,910	3,209	22,119	3.29	16,940	2,882	19,821	4,635	739	5,374	12,305	2,143	14,448	3.67
06/30/51			19,855	2,264	22,119	3.29	17,401	2,428	19,829	4,875	507	5,382	12,526	1,922	14,448	3.67
06/30/52			12,400	1,271	13,671	5.33	15,317	1,959	17,276	2,565	263	2,828	12,752	1,696	14,448	4.21
06/30/53			13,020	651	13,671	5.33	15,676	1,601	17,277	2,695	135	2,830	12,981	1,467	14,448	4.21
06/30/54							13,215	1,233	14,448				13,215	1,233	14,448	5.04
06/30/55							13,453	995	14,448				13,453	995	14,448	5.04
06/30/56							13,695	753	14,448				13,695	753	14,448	5.04
06/30/57							13,941	506	14,448				13,941	506	14,448	5.04
06/30/58							14,192	255	14,448				14,192	255	14,448	5.04
Total	**202,131**	**490,490**	**368,960**	**351,083**	**720,043**		**444,255**	**206,966**	**651,221**	**111,600**	**106,190**	**217,790**	**332,655**	**100,776**	**433,431**	

(1) Discounted to Tax-Exempt Bond Issuance Scenario TIC of
(2) Excludes debt service payments due on 6/1/2017
(3) Not inclusive of upcoming 2017 issuances
(4) D/S on the Private Activity and Subordinate Private Loan not included in Parity D/S Coverage Calculation

Additional Assumptions:
$300,000 Cost of Issuance per issuance

Additional Assumptions:
$300,000 Cost of Issuance for bonds
$60,000 Cost of Issuance for SRF Loan

Santa Clara Valley Water District
Financing Options Analysis Summary
($ amounts in thousands)

	(A) Tax-Exempt Bond Issuance	(D) Private Activity Bond Issuance w/ 10% Private Subordinate Debt			
Sources	**Total**	**Total**	**Vs. (A)**	**Private Activity Debt**	**Subordinate Loan**
Par Amount	368,960	405,180	36,220	343,435	61,745
Premium	63,970	50,715	-13,255	50,715	0
	432,930	455,895	22,965	394,150	61,745
Uses					
Project Fund	430,175	430,914		369,173	61,741
Debt Service Reserve Fund	0	22,349	22,349	22,349	0
Cost of Issuance	900	900	0	900	0
Underwriter's Discount	1,845	1,717	-128	1,717	0
Additional Proceeds	10	15	5	11	4
	432,930	455,895	22,965	394,150	61,745
True Interest Cost (TIC)	3.697%	4.651%	0.953%	3.877%	9.762%
Total Net Interest	287,113	400,100	112,987	276,071	124,030
Total DS	720,043	855,996	135,953	670,221	185,775
Total Net DS	720,043	833,646	113,604	647,872	185,775
NPV to 6/1/2017, Total Net DS [1]	359,873	420,357	60,484	335,155	85,202
Breakeven Loan Issuance					
Minimum Parity Coverage	1.351	1.467	0.116		

Expenditures by Source		FY	Total	Tax Exempt Bonds	Cash		Total	Private Activity Debt		Sub. Loan		Cash
		2018	832	0	832		832	0		0		832
		2019	324	0	324	6/1/2019	324	0	6/1/2019	0		324
Assumptions:		2020	22,793	15,955	6,838		22,793	15,955		0		6,838
30 year ammortization schedule		2021	25,309	17,716	7,593	6/1/2021	25,309	17,716	6/1/2021	0		7,593
Project Fund Investment Rate @	**0.50%**	2022	108,789	76,152	32,637		108,789	76,152		0		32,637
Rates as of 4/5/2017		2023	108,930	76,251	32,679	6/1/2023	108,930	76,251	6/1/2023	0		32,679
Net Revenue from ops		2024	108,930	76,251	32,679		108,930	76,251		0		32,679
(per 2016 CAFR) @	**72,800**	2025	108,930	76,251	32,679		108,930	76,251		0	6/1/2026	32,679
No Net Revenue Growth		2026	108,930	76,251	32,679		108,930	32,769		43,482		32,679
		2027	25,579	18,518	7,061		25,579	0		18,518		7,061
			619,346	433,346	186,000		619,346	371,346		62,000		186,000
	% of Financing			70.0%	30.0%			60%		10%		30%

Fiscal Year Ending	Outstanding D/S [2][3] Senior	Parity	Principal	Interest	D/S	Parity D/S Coverage	Total Principal	Total Interest	Total D/S	Principal	Interest	D/S	Principal	Interest	D/S	Parity D/S Coverage[4]
06/30/18	10,037	16,877				2.70										2.70
06/30/19	10,572	19,030				2.46										2.46
06/30/20	10,687	19,227	435	1,446	1,881	2.29	470	1,568	2,038	470	1,568	2,038				2.37
06/30/21	10,682	19,234	455	1,425	1,880	2.29	495	1,545	2,040	495	1,545	2,040				2.37
06/30/22	10,674	19,232	2,435	7,898	10,333	1.81	2,645	8,569	11,214	2,645	8,569	11,214				2.06
06/30/23	10,660	19,242	2,560	7,776	10,336	1.81	2,775	8,437	11,212	2,775	8,437	11,212				2.06
06/30/24	10,650	19,234	5,850	18,154	24,004	1.35	5,490	16,853	22,343	5,490	16,853	22,343				1.69
06/30/25	10,645	19,236	6,140	17,861	24,001	1.35	5,765	16,578	22,343	5,765	16,578	22,343				1.69
06/30/26	10,636	19,234	6,445	17,554	23,999	1.35	6,515	22,464	28,979	6,055	16,290	22,345	460	6,175	6,635	1.47
06/30/27	10,629	19,222	6,765	17,232	23,997	1.35	6,860	22,116	28,976	6,355	15,987	22,342	505	6,129	6,634	1.47
06/30/28	10,612	19,230	7,110	16,894	24,004	1.35	7,230	21,747	28,977	6,675	15,669	22,344	555	6,078	6,633	1.47
06/30/29	10,600	19,224	7,460	16,538	23,998	1.35	7,610	21,358	28,968	7,000	15,336	22,336	610	6,023	6,633	1.47
06/30/30	10,585	19,236	7,840	16,165	24,005	1.35	8,030	20,947	28,977	7,355	14,986	22,341	675	5,962	6,637	1.47
06/30/31	10,577	19,236	8,230	15,773	24,003	1.35	8,465	20,512	28,977	7,725	14,618	22,343	740	5,894	6,634	1.47
06/30/32	10,194	15,829	8,640	15,362	24,002	1.46	8,925	20,052	28,977	8,110	14,232	22,342	815	5,820	6,635	1.68
06/30/33	10,177	15,824	9,070	14,930	24,000	1.46	9,410	19,565	28,975	8,515	13,826	22,341	895	5,739	6,634	1.69
06/30/34	10,166	15,829	9,520	14,476	23,996	1.46	9,925	19,049	28,974	8,940	13,400	22,340	985	5,649	6,634	1.69
06/30/35	10,148	14,687	10,005	14,000	24,005	1.49	10,470	18,504	28,974	9,385	12,953	22,338	1,085	5,551	6,636	1.76
06/30/36	7,894	14,689	10,500	13,500	24,000	1.56	11,050	17,926	28,976	9,855	12,484	22,339	1,195	5,442	6,637	1.94
06/30/37	5,308	14,694	11,030	12,975	24,005	1.65	11,660	17,314	28,974	10,345	11,991	22,336	1,315	5,323	6,638	2.19
06/30/38		14,695	11,580	12,424	24,004	1.88	12,310	16,665	28,975	10,865	11,474	22,339	1,445	5,191	6,636	2.98
06/30/39		14,692	12,155	11,845	24,000	1.88	13,005	15,977	28,982	11,415	10,931	22,346	1,590	5,047	6,637	2.98
06/30/40		14,697	12,765	11,237	24,002	1.88	13,725	15,248	28,973	11,980	10,360	22,340	1,745	4,888	6,633	2.98
06/30/41		14,695	13,405	10,599	24,004	1.88	14,495	14,474	28,969	12,575	9,761	22,336	1,920	4,713	6,633	2.98
06/30/42		14,690	14,075	9,928	24,003	1.88	15,325	13,653	28,978	13,210	9,132	22,342	2,115	4,521	6,636	2.98
06/30/43		14,696	14,775	9,225	24,000	1.88	16,190	12,781	28,971	13,865	8,472	22,337	2,325	4,310	6,635	2.98
06/30/44		14,696	15,515	8,486	24,001	1.88	17,120	11,856	28,976	14,560	7,779	22,339	2,560	4,077	6,637	2.98
06/30/45		14,690	16,290	7,710	24,000	1.88	18,105	10,872	28,977	15,290	7,051	22,341	2,815	3,821	6,636	2.98
06/30/46		14,692	17,105	6,896	24,001	1.88	19,155	9,826	28,981	16,060	6,286	22,346	3,095	3,540	6,635	2.98
06/30/47			17,960	6,040	24,000	3.03	20,260	8,713	28,973	16,855	5,483	22,338	3,405	3,230	6,635	
06/30/48			18,860	5,142	24,002	3.03	21,445	7,530	28,975	17,700	4,640	22,340	3,745	2,890	6,635	
06/30/49			19,800	4,199	23,999	3.03	22,705	6,270	28,975	18,585	3,755	22,340	4,120	2,515	6,635	
06/30/50			18,910	3,209	22,119	3.29	22,005	4,929	26,934	17,475	2,826	20,301	4,530	2,103	6,633	
06/30/51			19,855	2,264	22,119	3.29	23,335	3,602	26,937	18,350	1,952	20,302	4,985	1,650	6,635	
06/30/52			12,400	1,271	13,671	5.33	15,580	2,186	17,766	10,095	1,035	11,130	5,485	1,152	6,637	
06/30/53			13,020	651	13,671	5.33	16,630	1,133	17,763	10,600	530	11,130	6,030	603	6,633	
06/30/54																
06/30/55																
06/30/56																
06/30/57																
06/30/58																
Total	**202,131**	**490,490**	**368,960**	**351,083**	**720,043**		**405,180**	**450,816**	**855,996**	**343,435**	**326,786**	**670,221**	**61,745**	**124,030**	**185,775**	

(1) Discounted to Tax-Exempt Bond Issuance Scenario TIC of
(2) Excludes debt service payments due on 6/1/2017
(3) Not inclusive of upcoming 2017 issuances
(4) D/S on the Private Activity and Subordinate Private Loan not included in Parity D/S Coverage Calculatio

Additional Assumptions:
$300,000 Cost of Issuance per issuance

Additional Assumptions:
$300,000 Cost of Issuance fper issuance
Subordinate private loan rate of 10%

Santa Clara Valley Water District
Financing Options Analysis Summary
($ amounts in thousands)

Sources	(A) Tax-Exempt Bond Issuance: Total	(E) Multiple Loan Combination (49% WIFIA, 10% Private Subordinate Debt, PABs): Total	Vs. (A)	Private Activity Debt	Subordinate Loan	WIFIA Loan	
Par Amount	368,960	475,179	106,219	63,605	61,745	349,829	
Premium	63,970	9,393	-54,576	9,393			
	432,930	484,572	51,643	72,998	61,745	349,829	
Uses							
Project Fund	430,175	477,997	47,823	67,928	61,741	348,329	348,329
Debt Service Reserve Fund	0	4,143	4,143	4,143	0	0	
Cost of Issuance	900	2,100	1,200	600	0	1,500	
Underwriter's Discount	1,845	318	-1,527	318	0	0	
Additional Proceeds	10	14	4	9	4		
	432,930	484,572	51,643	72,998	61,745	349,829	
True Interest Cost (TIC)	3.697%	3.884%	0.187%	3.877%	9.762%	2.623%	
Total Net Interest	287,113	325,632	38,519	51,129	113,505	160,998	
Total DS	720,043	810,205	90,162	124,128	175,250	510,827	
Total Net DS	720,043	806,062	86,019	119,985	175,250	510,827	
NPV to 6/1/2017, Total Net DS [1]	359,873	351,524	-8,349	64,726	83,048	203,750	
Breakeven Loan Issuance							
Minimum Parity Coverage	1.351	1.322	-0.029				

Expenditures by Source		FY	Total	Tax Exempt Bonds	Cash		Total	Private Activity Debt		Sub. Loan		WIFIA Loan		Cash
		2018	832	0	832		832	0		0		0		832
		2019	324	0	324	6/1/2019	324	0	6/1/2019	0		0		324
Assumptions:		2020	22,793	15,955	6,838		22,793	15,955		0		0		6,838
30 year ammortization schedule		2021	25,309	17,716	7,593	6/1/2021	25,309	17,716		0		0		7,593
Project Fund Investment Rate @	0.50%	2022	108,789	76,152	32,637		108,789	34,529		0		41,624	6/1/2021	32,637
Rates as of 4/5/2017		2023	108,930	76,251	32,679	6/1/2023	108,930	0		0		76,251		32,679
Net Revenue from ops		2024	108,930	76,251	32,679		108,930	0		0		76,251		32,679
(per 2016 CAFR) @	72,800	2025	108,930	76,251	32,679		108,930	0		0	6/1/2025	76,251		32,679
No Net Revenue Growth		2026	108,930	76,251	32,679		108,930	0		43,482		32,769		32,679
		2027	25,579	18,518	7,061		25,579	0		18,518		0		7,061
			619,346	433,346	186,000		619,346	68,200		62,000		303,146		186,000
% of Financing				70.0%	30.0%			11%		10%		49%		30%

Fiscal Year Ending	Outstanding D/S [2][3] Senior	Parity	Principal	Interest	D/S	Parity D/S Coverage	Total Principal	Interest	D/S	Principal	Interest	D/S	Principal	Interest	D/S	Principal	Interest	D/S	Parity D/S Coverage[4]
06/30/18	10,037	16,877				2.70													2.70
06/30/19	10,572	19,030				2.46													2.46
06/30/20	10,687	19,227	435	1,446	1,881	2.29	470	1,568	2,038	470	1,568	2,038							2.37
06/30/21	10,682	19,234	455	1,425	1,880	2.29	495	1,545	2,040	495	1,545	2,040							2.37
06/30/22	10,674	19,232	2,435	7,898	10,333	1.81	1,005	3,132	4,137	1,005	3,132	4,137							2.30
06/30/23	10,660	19,242	2,560	7,776	10,336	1.81	1,055	3,082	4,137	1,055	3,082	4,137							2.30
06/30/24	10,650	19,234	5,850	18,154	24,004	1.35	1,110	3,029	4,139	1,110	3,029	4,139							2.30
06/30/25	10,645	19,236	6,140	17,861	24,001	1.35	1,165	2,974	4,139	1,165	2,974	4,139							2.30
06/30/26	10,636	19,234	6,445	17,554	23,999	1.35	1,790	9,090	10,880	1,225	2,915	4,140	565	6,175	6,740				2.07
06/30/27	10,629	19,222	6,765	17,232	23,997	1.35	1,905	8,972	10,877	1,285	2,854	4,139	620	6,118	6,738				2.07
06/30/28	10,612	19,230	7,110	16,894	24,004	1.35	2,035	8,846	10,881	1,350	2,790	4,140	685	6,056	6,741				2.07
06/30/29	10,600	19,224	7,460	16,538	23,998	1.35	9,962	17,945	27,907	1,415	2,722	4,137	755	5,988	6,743	7,792	9,235	17,028	1.32
06/30/30	10,585	19,236	7,840	16,165	24,005	1.35	10,313	17,593	27,906	1,485	2,652	4,137	830	5,912	6,742	7,998	9,030	17,028	1.32
06/30/31	10,577	19,236	8,230	15,773	24,003	1.35	10,679	17,225	27,904	1,560	2,577	4,137	910	5,829	6,739	8,209	8,819	17,028	1.32
06/30/32	10,194	15,829	8,640	15,362	24,002	1.46	11,066	16,839	27,905	1,640	2,499	4,139	1,000	5,738	6,738	8,426	8,602	17,028	1.44
06/30/33	10,177	15,824	9,070	14,930	24,000	1.46	11,468	16,435	27,903	1,720	2,417	4,137	1,100	5,638	6,738	8,648	8,379	17,028	1.44
06/30/34	10,166	15,829	9,520	14,476	23,996	1.46	11,891	16,010	27,902	1,805	2,331	4,136	1,210	5,528	6,738	8,876	8,151	17,028	1.44
06/30/35	10,148	14,687	10,005	14,000	24,005	1.49	12,341	15,565	27,906	1,895	2,241	4,136	1,335	5,407	6,742	9,111	7,917	17,028	1.48
06/30/36	7,894	14,689	10,500	13,500	24,000	1.56	12,806	15,096	27,902	1,990	2,146	4,136	1,465	5,274	6,739	9,351	7,676	17,028	1.56
06/30/37	5,308	14,694	11,030	12,975	24,005	1.65	13,303	14,603	27,906	2,090	2,047	4,137	1,615	5,127	6,742	9,598	7,429	17,028	1.67
06/30/38		14,695	11,580	12,424	24,004	1.88	13,822	14,084	27,905	2,195	1,942	4,137	1,775	4,966	6,741	9,852	7,176	17,028	1.95
06/30/39		14,692	12,155	11,845	24,000	1.88	14,367	13,536	27,903	2,305	1,833	4,138	1,950	4,788	6,738	10,112	6,916	17,028	1.95
06/30/40		14,697	12,765	11,237	24,002	1.88	14,949	12,959	27,908	2,425	1,717	4,142	2,145	4,593	6,738	10,379	6,649	17,028	1.95
06/30/41		14,695	13,405	10,599	24,004	1.88	15,553	12,350	27,902	2,540	1,596	4,136	2,360	4,379	6,739	10,653	6,375	17,028	1.95
06/30/42		14,690	14,075	9,928	24,003	1.88	16,204	11,705	27,909	2,670	1,469	4,139	2,600	4,143	6,743	10,934	6,094	17,028	1.95
06/30/43		14,696	14,775	9,225	24,000	1.88	16,882	11,023	27,906	2,800	1,336	4,136	2,860	3,883	6,743	11,222	5,805	17,028	1.95
06/30/44		14,696	15,515	8,486	24,001	1.88	17,604	10,301	27,905	2,940	1,196	4,136	3,145	3,597	6,742	11,519	5,509	17,028	1.95
06/30/45		14,690	16,290	7,710	24,000	1.88	18,373	9,535	27,908	3,090	1,049	4,139	3,460	3,282	6,742	11,823	5,205	17,028	1.95
06/30/46		14,692	17,105	6,896	24,001	1.88	19,185	8,723	27,908	3,245	894	4,139	3,805	2,936	6,741	12,135	4,893	17,028	1.95
06/30/47			17,960	6,040	24,000	3.03	20,045	7,860	27,905	3,405	732	4,137	4,185	2,556	6,741	12,455	4,572	17,028	3.64
06/30/48			18,860	5,142	24,002	3.03	20,964	6,942	27,906	3,575	562	4,137	4,605	2,137	6,742	12,784	4,243	17,028	3.64
06/30/49			19,800	4,199	23,999	3.03	21,942	5,965	27,907	3,755	383	4,138	5,065	1,677	6,742	13,122	3,906	17,028	3.64
06/30/50			18,910	3,209	22,119	3.29	20,938	4,925	25,863	1,900	195	2,095	5,570	1,170	6,740	13,468	3,560	17,028	3.76
06/30/51			19,855	2,264	22,119	3.29	21,954	3,917	25,871	2,000	100	2,100	6,130	613	6,743	13,824	3,204	17,028	3.76
06/30/52			12,400	1,271	13,671	5.33	14,188	2,839	17,028							14,188	2,839	17,028	4.28
06/30/53			13,020	651	13,671	5.33	14,563	2,465	17,028							14,563	2,465	17,028	4.28
06/30/54							14,948	2,080	17,028							14,948	2,080	17,028	4.28
06/30/55							15,342	1,685	17,028							15,342	1,685	17,028	4.28
06/30/56							15,747	1,280	17,028							15,747	1,280	17,028	4.28
06/30/57							16,163	865	17,028							16,163	865	17,028	4.28
06/30/58							16,590	438	17,028							16,590	438	17,028	4.28
Total	202,131	490,490	368,960	351,083	720,043		475,179	335,025	810,205	63,605	60,523	124,128	61,745	113,505	175,250	349,829	160,998	510,827	

(1) Discounted to Tax-Exempt Bond Issuance Scenario TIC of
(2) Excludes debt service payments due on 6/1/2017
(3) Not inclusive of upcoming 2017 issuances
(4) D/S on the Private Activity and Subordinate Private Loan not included in Parity D/S Coverage Calculation

Additional Assumptions:
$300,000 Cost of Issuance per issuance

Additional Assumptions:
$300,000 Cost of Issuance for bonds
$1,500,000 Cost of Issuance for WIFIA Loan

Santa Clara Valley Water District
Financing Option Comparison Scale

Tax-Exempt Parity Ratings (4/5/2017): Aa1/ - /AA+

		4/5/2017			Tax Exempts			AMT		2007B Refunded		2007B Refunding			2006B Refunded		2006B Refunding		
Year	Maturity	MMD	Interpolated MMD (June)	Treasury	Spread	Coupon	Yield	Spread	Yield	+ TSY Spread	Yield	+ TSY Spread	Yield	% of Tax-Exempt	+ TSY Spread	Yield	+ TSY Spread	Yield	% of Tax-Exempt
1	2018	0.86%	0.89%	1.05%	-4	5	0.85%	5	0.90%	-	1.38%	15	1.20%	70.83%	0.125%	1.18%	15	1.20%	70.833%
2	2019	1.02%	1.04%	1.29%	-6	5	0.98%	15	1.13%	-	1.58%	10	1.39%	70.50%	0.125%	1.42%	10	1.39%	70.504%
3	2020	1.18%	1.21%	1.51%	-6	5	1.15%	20	1.35%	-	1.78%	10	1.61%	71.43%	0.125%	1.64%	10	1.61%	71.429%
4	2021	1.33%	1.36%	1.91%	-3	5	1.33%	23	1.56%	-	1.92%	15	2.06%	64.56%	0.125%	2.04%	15	2.06%	64.563%
5	2022	1.53%	1.56%	1.91%	0	5	1.56%	25	1.81%	-	2.03%	45	2.36%	66.10%	0.125%	2.04%	45	2.36%	66.102%
6	2023	1.69%	1.72%	2.19%	2	5	1.74%	27	2.01%	-	2.15%	30	2.49%	69.88%	0.125%	2.32%	30	2.49%	69.880%
7	2024	1.85%	1.87%	2.19%	3	5	1.90%	27	2.17%	-	2.23%	45	2.64%	71.97%	0.125%	2.32%	45	2.64%	71.970%
8	2025	1.99%	2.00%	2.37%	4	5	2.04%	28	2.32%	-	2.30%	50	2.87%	71.08%	0.125%	2.50%	50	2.87%	71.080%
9	2026	2.11%	2.12%	2.37%	8	5	2.20%	29	2.49%	-	2.35%	65	3.02%	72.85%	0.125%	2.50%	65	3.02%	72.848%
10	2027	2.20%	2.21%	2.37%	11	5	2.32%	30	2.62%	-	2.40%	85	3.22%	72.05%	0.125%	2.50%	85	3.22%	72.050%
11	2028	2.29%	2.30%	2.37%	11	5	2.41%	30	2.71%	-	2.45%	95	3.32%	72.59%	0.125%	2.50%	95	3.32%	72.590%
12	2029	2.39%	2.40%	2.37%	11	5	2.51%	30	2.81%	-	2.48%	95	3.32%	75.60%	0.125%	2.50%	95	3.32%	75.602%
13	2030	2.49%	2.50%	2.37%	11	5	2.61%	30	2.91%	-	2.52%	95	3.32%	78.61%	0.125%	2.50%	95	3.32%	78.614%
14	2031	2.58%	2.58%	2.37%	11	5	2.69%	30	2.99%	-	2.54%	95	3.32%	81.02%	0.125%	2.50%	95	3.32%	81.024%
15	2032	2.66%	2.66%	2.37%	11	5	2.77%	30	3.07%	-	2.56%	95	3.32%	83.43%	0.125%	2.50%	95	3.32%	83.434%
16	2033	2.72%	2.72%	2.37%	11	5	2.83%	30	3.13%	-	2.57%				0.125%	2.50%	95	3.32%	85.241%
17	2034	2.78%	2.78%	2.37%	11	5	2.89%	30	3.19%	-	2.58%				0.125%	2.50%	95	3.32%	87.048%
18	2035	2.83%	2.83%	2.37%	11	5	2.94%	30	3.24%	-	2.59%				0.125%	2.50%	95	3.32%	88.554%
19	2036	2.87%	2.87%	2.37%	11	5	2.98%	30	3.28%	-	2.60%				0.125%	2.50%	95	3.32%	89.759%
20	2037	2.89%	2.89%	3.00%	11	5	3.00%	30	3.30%	-	2.62%	60	3.60%	83.33%	0.125%	3.13%	60	3.60%	83.333%
21	2038	2.91%	2.91%	3.00%	11	5	3.02%	30	3.32%	-	2.62%				0.125%	3.13%			
22	2039	2.92%	2.92%	3.00%	11	5	3.03%	30	3.33%	-	2.63%				0.125%	3.13%			
23	2040	2.93%	2.93%	3.00%	11	5	3.04%	30	3.34%	-	2.63%				0.125%	3.13%			
24	2041	2.94%	2.94%	3.00%	11	5	3.05%	30	3.35%	-	2.64%				0.125%	3.13%			
25	2042	2.95%	2.95%	3.00%	11	5	3.06%	30	3.36%	-	2.64%	70	3.70%	82.70%	0.125%	3.13%	70	3.70%	82.703%
26	2043	2.96%	2.96%	3.00%	11	5	3.07%	30	3.37%	-	2.64%				0.125%	3.13%			
27	2044	2.97%	2.97%	3.00%	11	5	3.08%	30	3.38%	-	2.64%				0.125%	3.13%			
28	2045	2.98%	2.98%	3.00%	11	5	3.09%	30	3.39%	-	2.64%				0.125%	3.13%			
29	2046	2.99%	2.99%	3.00%	11	5	3.10%	30	3.40%	-	2.65%				0.125%	3.13%			
30	2047	3.00%	3.00%	3.00%	11	5	3.11%	30	3.41%	-	2.65%	70	3.70%	84.05%	0.125%	3.13%	70	3.70%	84.054%