Government Financial Strategies

City of Placerville

CEC Loan for Option A General Fund Energy Projects Financing & Savings Analysis

DRAFT

as of June 25, 2018

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City of Placerville

Government Financial Strategies

Assumptions & Data

General Fund	*Option A*	*Option B*
Project Cost(1)		
Project Development Fee:	$107,877	$107,877
Interior Lighting Retrofit:	$42,228	$43,457
Exterior Lighting Retrofit:	$109,124	$112,304
Parking Garage Lighting Controls:	$14,124	$14,535
Replace HVAC - City Hall:	$168,918	$0
Replace HVAC - Old Town Hall:	$120,655	$0
Replace HVAC - Public Safety:	+ $86,170	+ $0
Total Project Costs:	$649,097	$278,173
Estimated Project Dates		
Project & Loan Start Date(2):	Dec 1, 2018	
Project Implementation Time(1):	9 months	
Project Completion Date:	Sep 1, 2019	
Net Present Value ("NPV") Savings Discount Rate(2):	3.00%	
Fiscal Year Start Date(2):	Jul 1, 2018	
CEC Loan(7) - GF Projects (Option A) Only		
Costs of Issuance(3):	$0	
Ongoing Annual Administration Costs(3):	$0	
Interest Rate(3):	1.00%	
Max. Allowed Loan Term(3):	20 years	
Year 1 Gross Energy Savings(1):	$28,668	
Max. Loan Amount Allowed by Program(3):	$3,000,000	
Total Project Costs:	$649,097	
17X Year 1 Gross Energy Savings:	$487,357	
Max. Loan Amount:	$487,357	
Available Funds(3):	$6,500,000	
Potential Loan Amount:	$487,357	
Total Project Costs:	$649,097	
Potential Loan Amount:	- $487,357	
Unfunded Project Costs:	$161,739	
Calculated Loan Term(3):	19 years	
1st Payment Date(3):	Dec 22, 2020	

(1) Information provided by Johnson Controls.
(2) Government Financial Strategies assumption/estimate.
(3) Information from California Energy Commission. Maximum loan amount is lesser of $3 million, eligible project costs, or 17 times year 1 gross energy savings (not including any material savings, lamp & ballast savings, HVAC O&M savings, and ongoing expenses). Calculated loan term based on interest rate, year 1 gross energy savings, and loan amount. First payment date is December 22 following fiscal year in which project completed.

Government Financial Strategies

Option A Projects - Savings Before Financing - General Fund Projects

	Project Year(1)		Savings & Rebates(2)				Expenses(2)		Savings Before	Fiscal Year		Savings Before
Year	Beginning	Ending	Electrical Savings	HVAC O&M Savings	Lamp & Ballast Savings	Total Savings	M&V Performance Verification	Total Expenses	Financing	Beginning	Ending	Financing
0	9/1/18	8/31/19	$0	$0	$0	$0	$0	$0	$0	7/1/18	6/30/19	$0
1	9/1/19	8/31/20	$28,668	$8,000	$2,000	$38,668	$7,455	$7,455	$31,213	7/1/19	6/30/20	$26,011
2	9/1/20	8/31/21	$29,815	$8,320	$2,000	$40,135	$3,419	$3,419	$36,716	7/1/20	6/30/21	$35,799
3	9/1/21	8/31/22	$31,007	$8,653	$2,000	$41,660	$3,521	$3,521	$38,139	7/1/21	6/30/22	$37,902
4	9/1/22	8/31/23	$32,248	$8,999	$2,000	$43,247	$3,627	$3,627	$39,620	7/1/22	6/30/23	$39,373
5	9/1/23	8/31/24	$33,538	$9,359	$2,000	$44,896	$3,736	$3,736	$41,161	7/1/23	6/30/24	$40,904
6	9/1/24	8/31/25	$34,879	$9,733	$0	$44,612	$0	$0	$44,612	7/1/24	6/30/25	$44,037
7	9/1/25	8/31/26	$36,274	$10,123	$0	$46,397	$0	$0	$46,397	7/1/25	6/30/26	$46,099
8	9/1/26	8/31/27	$37,725	$10,527	$0	$48,253	$0	$0	$48,253	7/1/26	6/30/27	$47,943
9	9/1/27	8/31/28	$39,234	$10,949	$0	$50,183	$0	$0	$50,183	7/1/27	6/30/28	$49,861
10	9/1/28	8/31/29	$40,804	$11,386	$0	$52,190	$0	$0	$52,190	7/1/28	6/30/29	$51,856
11	9/1/29	8/31/30	$42,436	$0	$0	$42,436	$0	$0	$42,436	7/1/29	6/30/30	$44,061
12	9/1/30	8/31/31	$44,133	$0	$0	$44,133	$0	$0	$44,133	7/1/30	6/30/31	$43,850
13	9/1/31	8/31/32	$45,899	$0	$0	$45,899	$0	$0	$45,899	7/1/31	6/30/32	$45,604
14	9/1/32	8/31/33	$47,734	$0	$0	$47,734	$0	$0	$47,734	7/1/32	6/30/33	$47,428
15	9/1/33	8/31/34	$49,644	$0	$0	$49,644	$0	$0	$49,644	7/1/33	6/30/34	$49,326
16	9/1/34	8/31/35	$51,630	$0	$0	$51,630	$0	$0	$51,630	7/1/34	6/30/35	$51,299
17	9/1/35	8/31/36	$53,695	$0	$0	$53,695	$0	$0	$53,695	7/1/35	6/30/36	$53,351
18	9/1/36	8/31/37	$55,843	$0	$0	$55,843	$0	$0	$55,843	7/1/36	6/30/37	$55,485
19	9/1/37	8/31/38	$58,076	$0	$0	$58,076	$0	$0	$58,076	7/1/37	6/30/38	$57,704
20	9/1/38	8/31/39	$60,399	$0	$0	$60,399	$0	$0	$60,399	7/1/38	6/30/39	$60,012
21	9/1/39	8/31/40	$62,815	$0	$0	$62,815	$0	$0	$62,815	7/1/39	6/30/40	$62,413
22	9/1/40	8/31/41	$65,328	$0	$0	$65,328	$0	$0	$65,328	7/1/40	6/30/41	$64,909
23	9/1/41	8/31/42	$67,941	$0	$0	$67,941	$0	$0	$67,941	7/1/41	6/30/42	$67,506
24	9/1/42	8/31/43	$70,659	$0	$0	$70,659	$0	$0	$70,659	7/1/42	6/30/43	$70,206
25	9/1/43	8/31/44	$73,485	$0	$0	$73,485	$0	$0	$73,485	7/1/43	6/30/44	$73,014
26	9/1/44	8/31/45								7/1/44	6/30/45	$12,248
			$1,193,908	$96,049	$10,000	$1,299,957	$21,758	$21,758	$1,278,199			$1,278,199

(1) For the purposes of analysis, it is assumed that the project completion date, when savings would begin, is 9/1/19.
(2) Information provided by Johnson Controls.

Government Financial Strategies

Option A Projects - CEC Loan and Projected Cash Flow

CEC Loan

Amount for Projects:	$487,357	
Accrued Interest:	$3,655	(Assuming 100% of loan amount drawn down on day 1)
Costs of Issuance:	$0	
Total Amount Amortized:	$491,013	
Loan Closing Date:	Dec. 1, 2018	
Project Completion Date:	Sep. 1, 2019	
First Payment Date:	Dec. 22, 2020	
Term:	19 years	
Basis:	semi-annual in arrears	
Interest Rate:	1.00%	

Date	Pmt. #	Principal	Interest	Payment	Balance
Sep. 1, 2019					$491,012.59
Dec. 22, 2020	1	($11,764.88)	($6,424.08)	($18,188.96)	$479,247.71
Jun. 22, 2021	2	($11,823.71)	($2,396.24)	($14,219.95)	$467,424.00
Dec. 22, 2021	3	($11,882.82)	($2,337.12)	($14,219.94)	$455,541.18
Jun. 22, 2022	4	($11,942.24)	($2,277.71)	($14,219.95)	$443,598.94
Dec. 22, 2022	5	($12,001.95)	($2,217.99)	($14,219.94)	$431,596.99
Jun. 22, 2023	6	($12,061.96)	($2,157.98)	($14,219.94)	$419,535.03
Dec. 22, 2023	7	($12,122.27)	($2,097.68)	($14,219.95)	$407,412.76
Jun. 22, 2024	8	($12,182.88)	($2,037.06)	($14,219.94)	$395,229.88
Dec. 22, 2024	9	($12,243.79)	($1,976.15)	($14,219.94)	$382,986.09
Jun. 22, 2025	10	($12,305.01)	($1,914.93)	($14,219.94)	$370,681.08
Dec. 22, 2025	11	($12,366.54)	($1,853.41)	($14,219.95)	$358,314.54
Jun. 22, 2026	12	($12,428.37)	($1,791.57)	($14,219.94)	$345,886.17
Dec. 22, 2026	13	($12,490.51)	($1,729.43)	($14,219.94)	$333,395.66
Jun. 22, 2027	14	($12,552.97)	($1,666.98)	($14,219.95)	$320,842.69
Dec. 22, 2027	15	($12,615.73)	($1,604.21)	($14,219.94)	$308,226.96
Jun. 22, 2028	16	($12,678.81)	($1,541.13)	($14,219.94)	$295,548.15
Dec. 22, 2028	17	($12,742.20)	($1,477.74)	($14,219.94)	$282,805.95
Jun. 22, 2029	18	($12,805.91)	($1,414.03)	($14,219.94)	$270,000.04
Dec. 22, 2029	19	($12,869.94)	($1,350.00)	($14,219.94)	$257,130.10
Jun. 22, 2030	20	($12,934.29)	($1,285.65)	($14,219.94)	$244,195.81
Dec. 22, 2030	21	($12,998.96)	($1,220.98)	($14,219.94)	$231,196.85
Jun. 22, 2031	22	($13,063.96)	($1,155.98)	($14,219.94)	$218,132.89
Dec. 22, 2031	23	($13,129.28)	($1,090.66)	($14,219.94)	$205,003.61
Jun. 22, 2032	24	($13,194.93)	($1,025.02)	($14,219.95)	$191,808.68
Dec. 22, 2032	25	($13,260.90)	($959.04)	($14,219.94)	$178,547.78
Jun. 22, 2033	26	($13,327.20)	($892.74)	($14,219.94)	$165,220.58
Dec. 22, 2033	27	($13,393.84)	($826.10)	($14,219.94)	$151,826.74
Jun. 22, 2034	28	($13,460.81)	($759.13)	($14,219.94)	$138,365.93
Dec. 22, 2034	29	($13,528.11)	($691.83)	($14,219.94)	$124,837.82
Jun. 22, 2035	30	($13,595.75)	($624.19)	($14,219.94)	$111,242.07
Dec. 22, 2035	31	($13,663.73)	($556.21)	($14,219.94)	$97,578.34
Jun. 22, 2036	32	($13,732.05)	($487.89)	($14,219.94)	$83,846.29
Dec. 22, 2036	33	($13,800.71)	($419.23)	($14,219.94)	$70,045.58
Jun. 22, 2037	34	($13,869.72)	($350.23)	($14,219.95)	$56,175.86
Dec. 22, 2037	35	($13,939.06)	($280.88)	($14,219.94)	$42,236.80
Jun. 22, 2038	36	($14,008.76)	($211.18)	($14,219.94)	$28,228.04
Dec. 22, 2038	37	($14,078.80)	($141.14)	($14,219.94)	$14,149.24
Jun. 22, 2039	38	($14,149.20)	($70.75)	($14,219.95)	$0.04
		($491,012.55)	($53,314.27)	($544,326.82)	

Fiscal Year	Loan Payments
2020 -21	$32,408.91
2021 -22	$28,439.89
2022 -23	$28,439.88
2023 -24	$28,439.89
2024 -25	$28,439.88
2025 -26	$28,439.89
2026 -27	$28,439.89
2027 -28	$28,439.88
2028 -29	$28,439.88
2029 -30	$28,439.88
2030 -31	$28,439.88
2031 -32	$28,439.89
2032 -33	$28,439.88
2033 -34	$28,439.88
2034 -35	$28,439.88
2035 -36	$28,439.88
2036 -37	$28,439.89
2037 -38	$28,439.88
2038 -39	$28,439.89
	$544,326.82

Projected Cash Flow

Fiscal Year	Savings Before Financing	Loan Payments	Annual Savings	Cumulative Savings
2019 -20	$26,011	$0.00	$26,011	$26,011
2020 -21	$35,799	$32,408.91	$3,390	$29,401
2021 -22	$37,902	$28,439.89	$9,462	$38,863
2022 -23	$39,373	$28,439.88	$10,933	$49,796
2023 -24	$40,904	$28,439.89	$12,464	$62,260
2024 -25	$44,037	$28,439.88	$15,597	$77,857
2025 -26	$46,099	$28,439.89	$17,660	$95,516
2026 -27	$47,943	$28,439.89	$19,503	$115,020
2027 -28	$49,861	$28,439.88	$21,421	$136,441
2028 -29	$51,856	$28,439.88	$23,416	$159,857
2029 -30	$44,061	$28,439.88	$15,622	$175,478
2030 -31	$43,850	$28,439.88	$15,410	$190,889
2031 -32	$45,604	$28,439.89	$17,164	$208,053
2032 -33	$47,428	$28,439.88	$18,989	$227,042
2033 -34	$49,326	$28,439.88	$20,886	$247,927
2034 -35	$51,299	$28,439.88	$22,859	$270,786
2035 -36	$53,351	$28,439.88	$24,911	$295,697
2036 -37	$55,485	$28,439.89	$27,045	$322,742
2037 -38	$57,704	$28,439.88	$29,264	$352,006
2038 -39	$60,012	$28,439.89	$31,572	$383,578
2039 -40	$62,413	$0.00	$62,413	$445,991
2040 -41	$64,909	$0.00	$64,909	$510,900
2041 -42	$67,506	$0.00	$67,506	$578,405
2042 -43	$70,206	$0.00	$70,206	$648,611
2043 -44	$73,014	$0.00	$73,014	$721,625
2044 -45	$12,248	$0.00	$12,248	$733,872
	$1,278,199	$544,327	$733,872	

NPV Savings at 3%:	$450,062
Less: Unfunded Project Costs:	-$161,739
Net Savings:	$288,323