

Bold Action and Innovation During Uncertainty

Fiscal, Environmental & Sustainability Case Studies

September 24, 2021



Meet the Speakers



Kelly Fergusson
Clean Energy Executive
ENGIE



Greg Folsom
City Manager,
City of Suisun City



Dan Romero
Council Member,
City of Hercules



Jason Holley
City Manager,
City of American Canyon



Introduction



Kelly Fergusson
Clean Energy Executive,
ENGIE

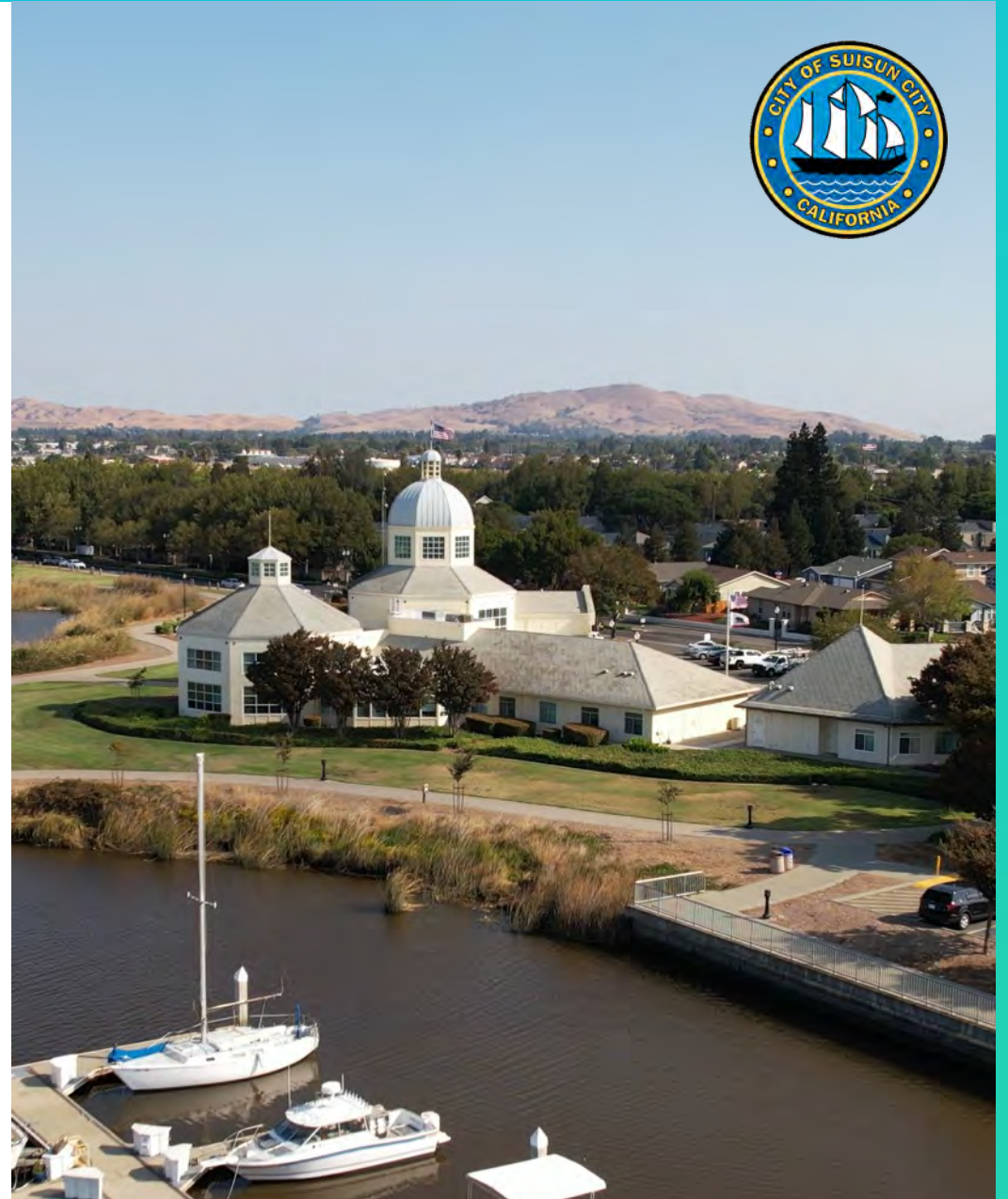


More Bold Action &
Innovation
Coming Up...

City of Suisun City



Greg Folsom
City Manager,
City of Suisun City

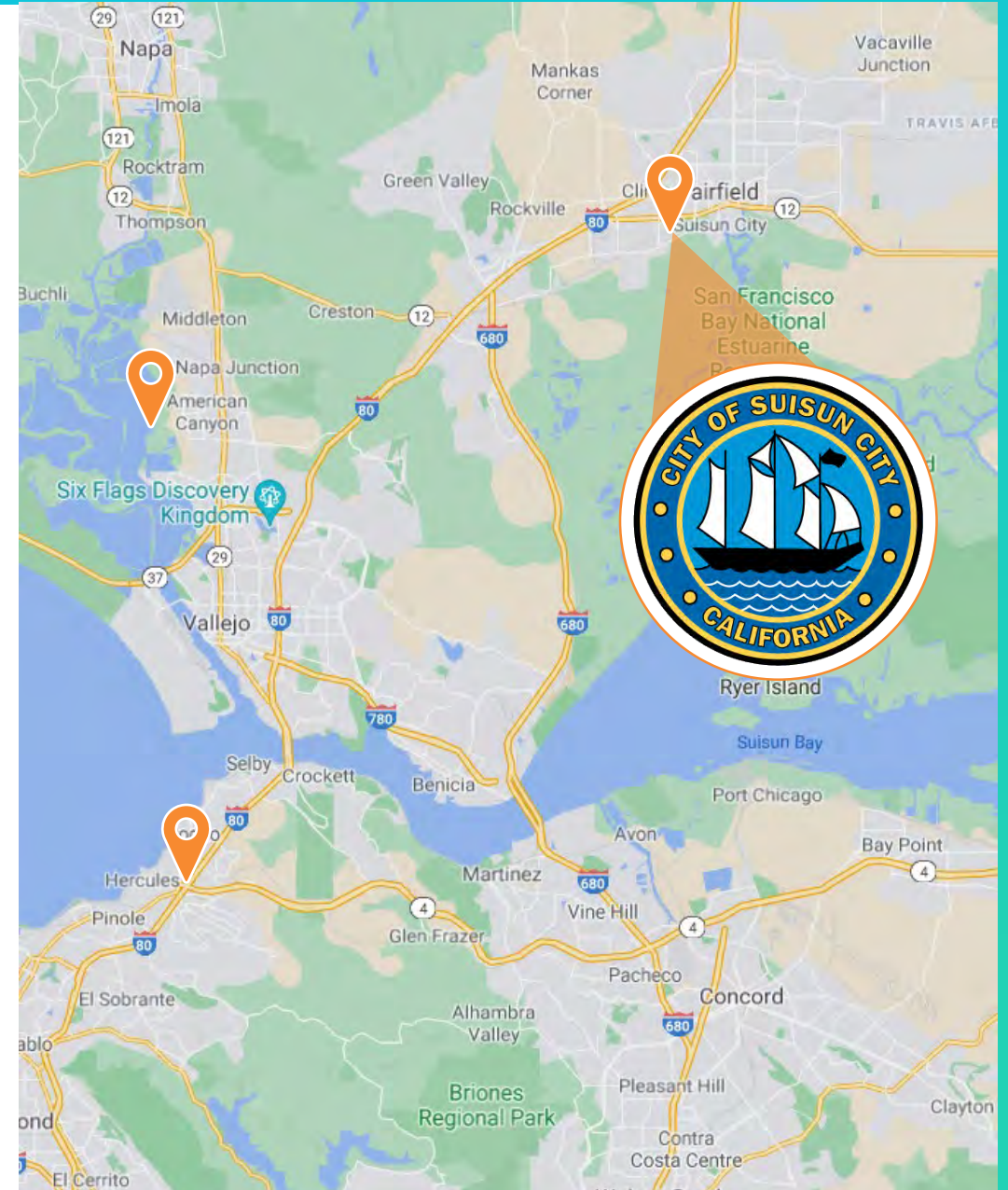


City Profile

Our Vision Statement

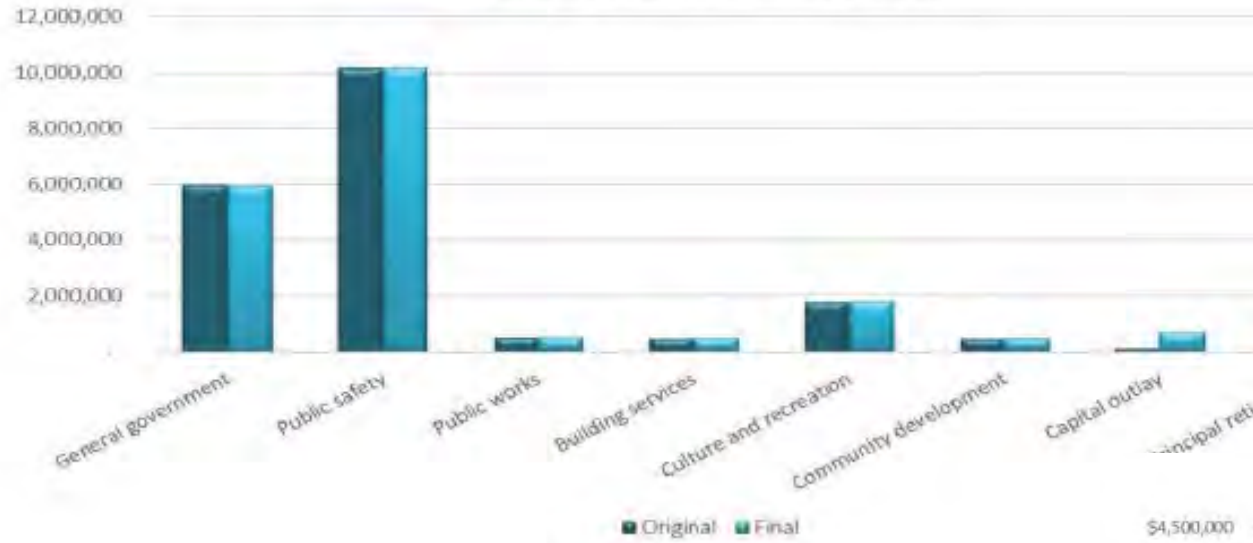
“Suisun City is an active, inclusive, sustainable and flourishing community committed to maintaining harmony between its urban and rural areas, supporting its history, arts and natural environment; and its thriving waterfront district, fostering opportunities for current and future generations.”

–City of Suisun City Draft Strategic Plan 2020-2025

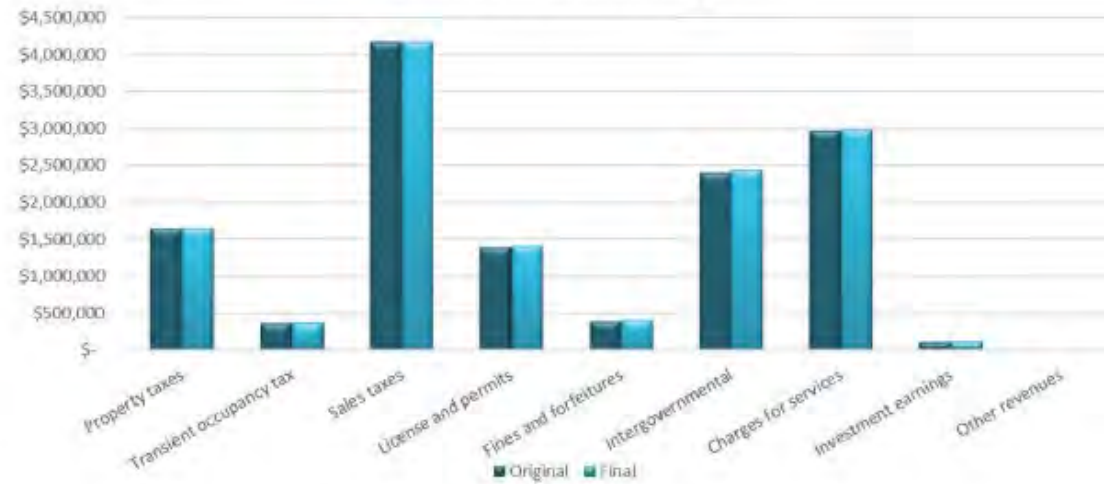


Fiscal Snapshot

General Fund Expenditure Budget



General Fund Revenue Budget



Project Drivers























- Tight budget, utility expenditure risk
- Deferred maintenance
- Lean staff



Decorative LED streetlights accent
Waterfront and Downtown

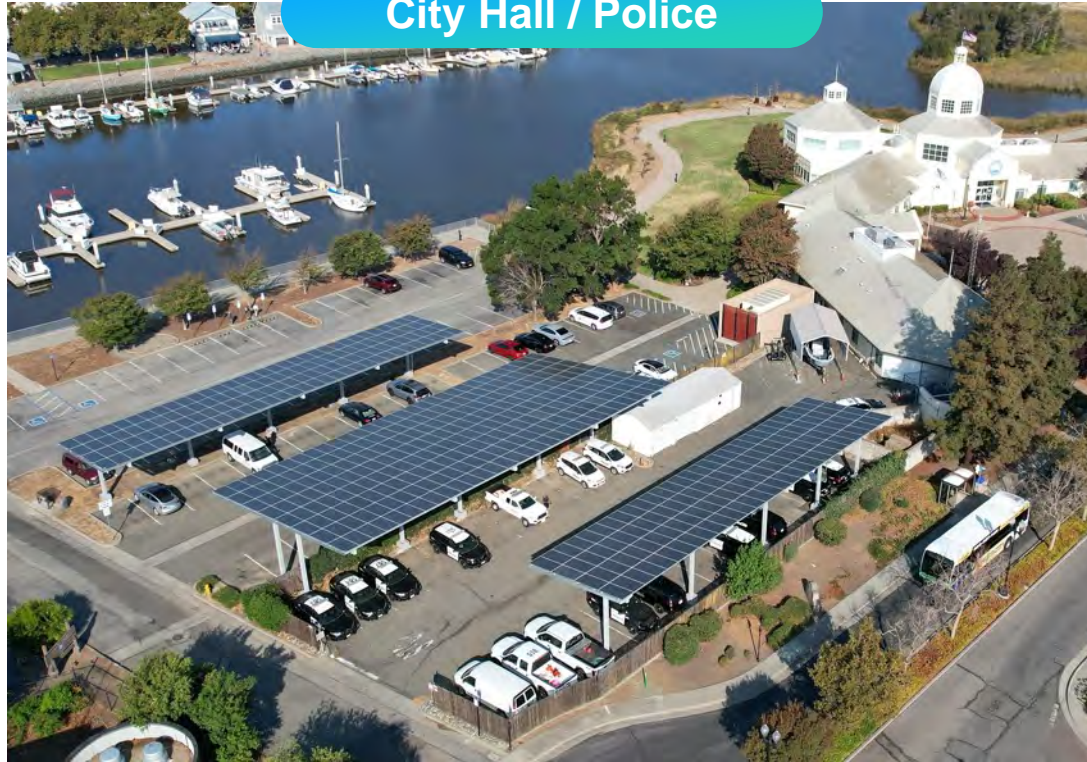
Project Overview

Clean Energy Scope

	Solar Generation (PV)	LED Lighting	Sports Lighting	HVAC	Thermostats
City Hall / Police					
Nelson Community Center / Heritage Park					
Senior Center					
Fire Hall					
Harbor Theater / Harbor Master Office					
Lambrecht Field & Corp Yard					
City-wide Streetlighting & Parks (including Off-Grid)					

Solar Installations

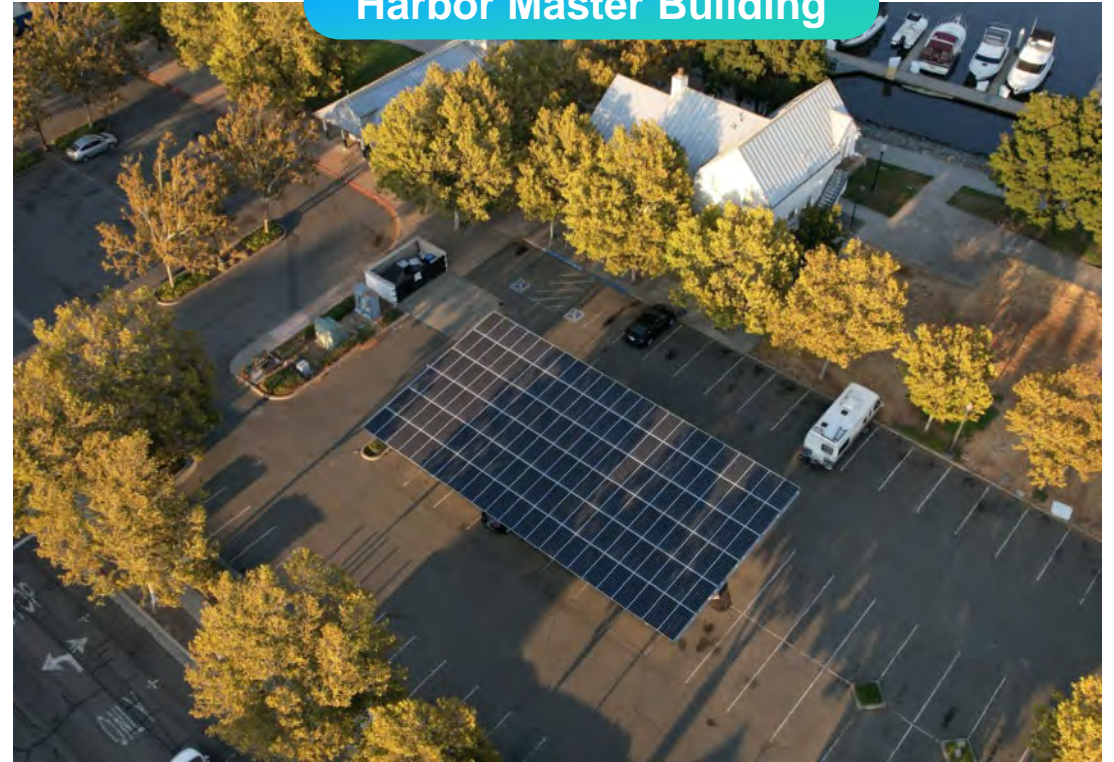
City Hall / Police



Parking Canopies

— 194.4 kW DC

Harbor Master Building



Parking Canopies

— 54.0 kW DC

Solar Installations Continued

Fire Station



Apparatus Canopies

— 19.2 kW DC

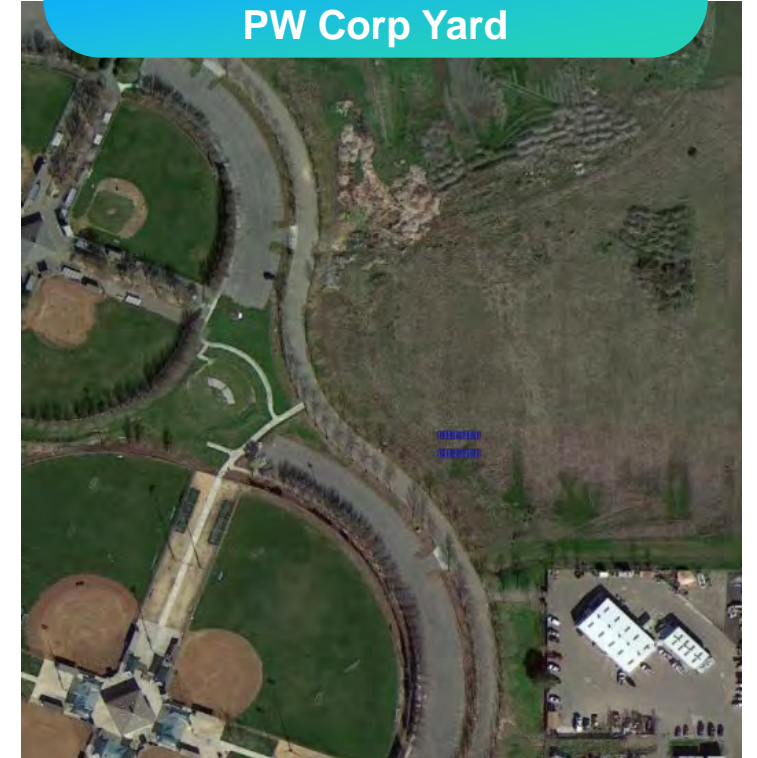
Nelson Community Center
and Heritage Park



Parking Shade Canopies

— 70.4 kW DC

Lambrecht Field and
PW Corp Yard



Ground mount

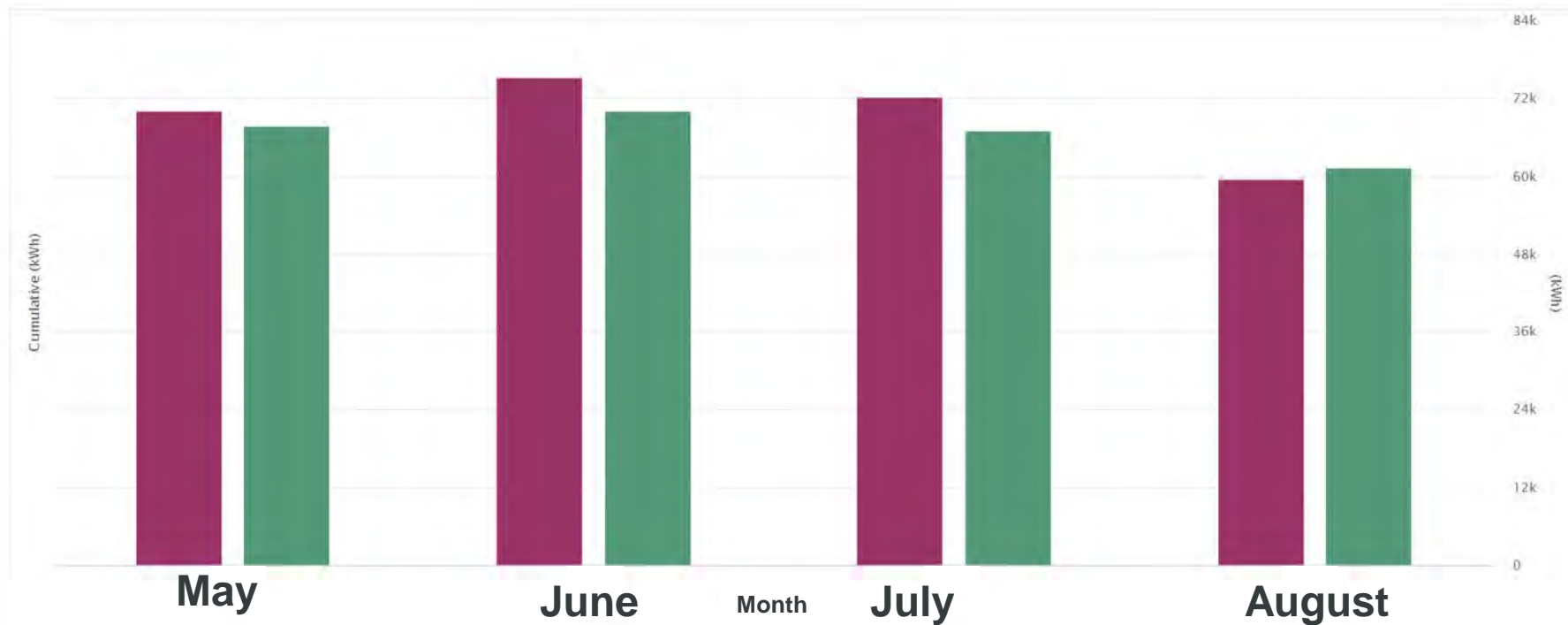
— 26.6 kW DC

Suisun: Solar Production Data

Last four full months – summer 2021 production

● (All Sites) Total PV Production – Actual 2021 [Units] (kWh)

● (All Sites) Total PV Production – Projected 2021 [Units] (kWh)



5 systems

City-wide Streetlight Conversion to LED

Antiques (Decoratives)



Before



New

Cobraheads



Before

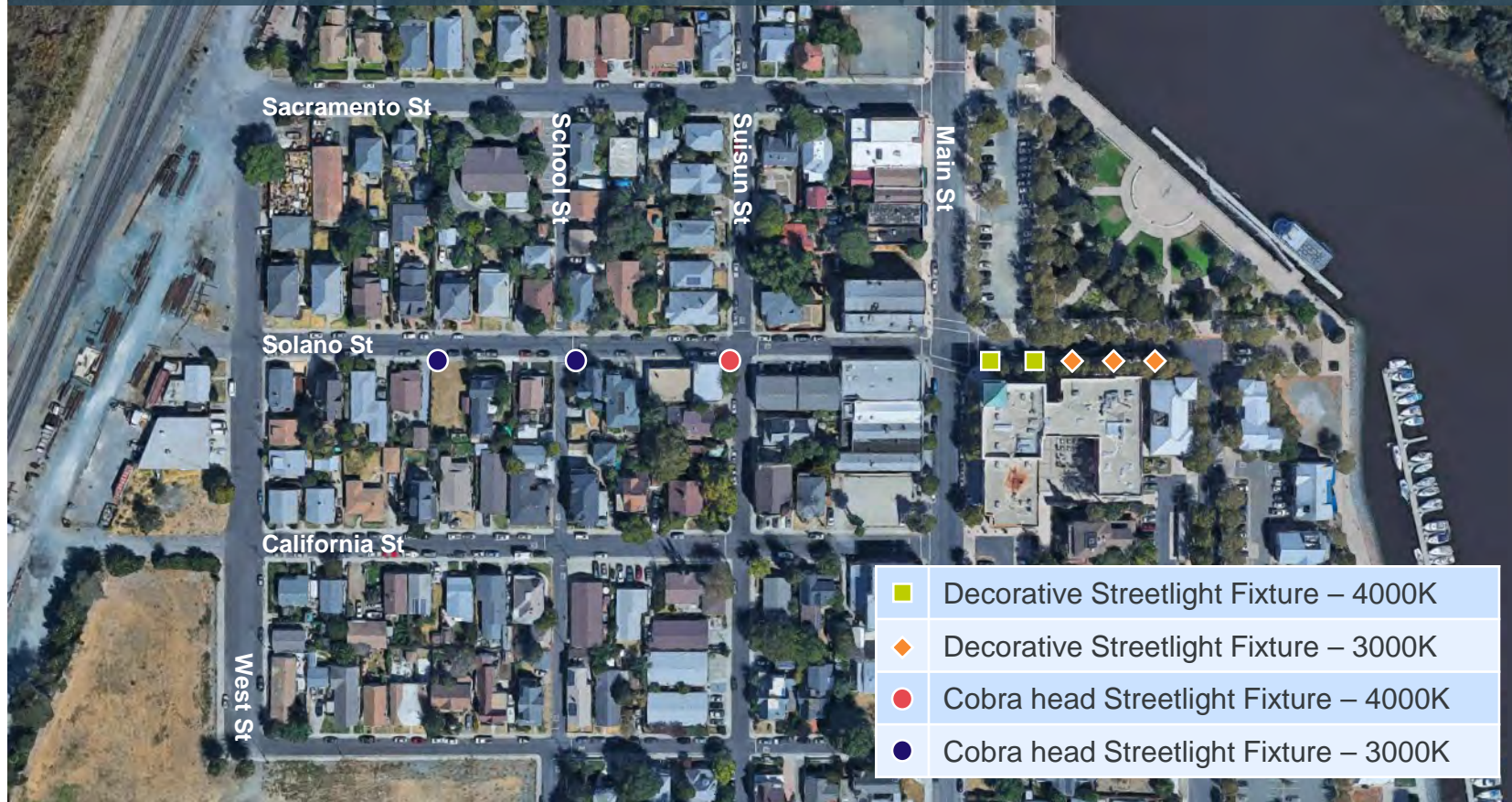


New

Community Outreach

LED streetlight demonstration

- Public outreach / education – October 4 to October 15, 2018
- Identify best color temperature for public safety and aesthetics in Downtown and Old Town



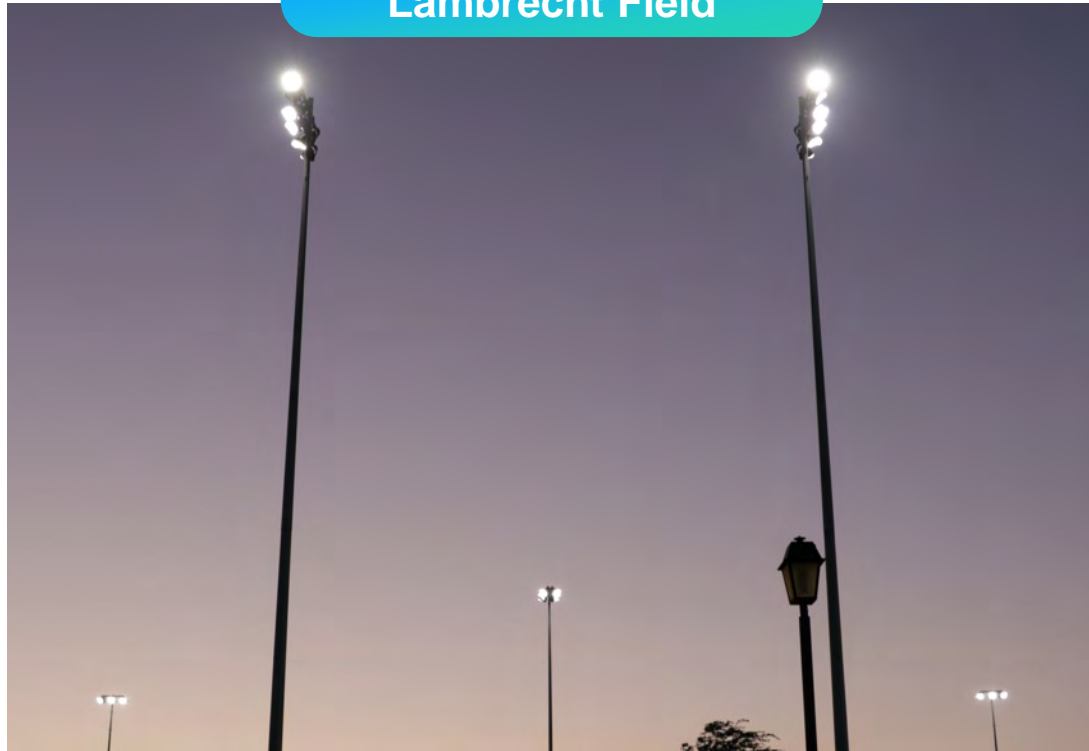
“Smart” Off-Grid Streetlights

Cost-efficient solution with big positive impact



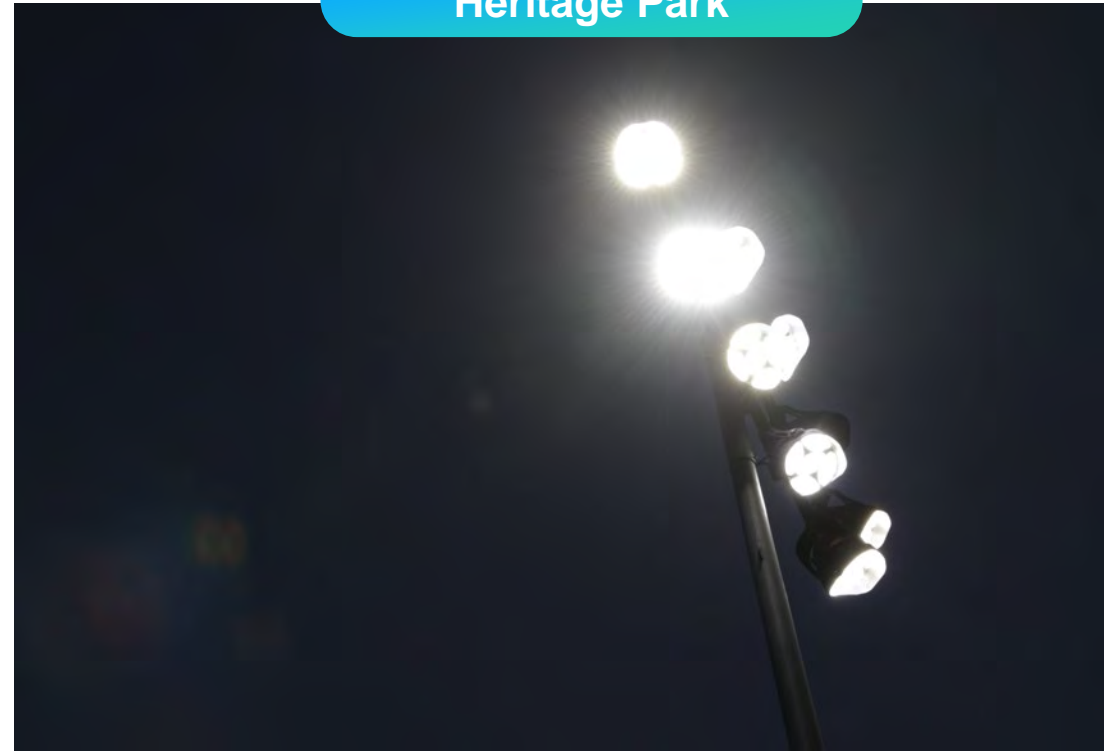
Enhance / Reconfigure Sports Lighting

Lambrecht Field



New LED sports lighting

Heritage Park



Baseball to Soccer Field Conversion
and new LED sports lighting

HVAC Upgrades



End-of-life HVAC equipment replacement (20 units) & thermostat upgrades

Financial Strategy

Bold action in a fiscally uncertain climate

- \$6 million TELP
- Competitive financing RFP
- 3.923% interest rate
- Guaranteed savings

Results

- \$12 million gross savings over life of project
- \$464,000 (60%) lower annual electrical expenditure
- \$3 million net savings

Year	Gross Program Savings	Estimated Lease Payment	Project Net Benefit	Net Cumulative Program Savings
1	\$355,791	\$351,831	\$3,959	\$3,959
2	\$309,700	\$305,740	\$3,959	\$7,919
3	\$322,786	\$318,826	\$3,959	\$11,878
4	\$346,395	\$342,436	\$3,959	\$15,838
5	\$361,019	\$357,059	\$3,959	\$19,797
6	\$376,265	\$372,306	\$3,959	\$23,757
7	\$392,160	\$388,201	\$3,959	\$27,716
8	\$408,732	\$404,773	\$3,959	\$31,676
9	\$426,010	\$422,051	\$3,959	\$35,635
10	\$444,024	\$440,065	\$3,959	\$39,595
11	\$462,806	\$458,846	\$3,959	\$43,554
12	\$482,387	\$478,428	\$3,959	\$47,513
13	\$502,804	\$498,845	\$3,959	\$51,473
14	\$524,092	\$520,132	\$3,959	\$55,432
15	\$546,287	\$542,328	\$3,959	\$59,392
16	\$569,430	\$565,470	\$3,959	\$63,351
17	\$593,560	\$589,601	\$3,959	\$67,311
18	\$618,721	\$614,761	\$3,959	\$71,270
19	\$644,955	\$640,996	\$3,959	\$75,230
20	\$672,310	\$668,351	\$3,959	\$79,189
21	\$622,182		\$622,182	\$701,371
22	\$649,131		\$649,131	\$1,350,502
23	\$677,247		\$677,247	\$2,027,749
24	\$706,582		\$706,582	\$2,734,331
25	\$280,917		\$280,917	\$3,015,249
Total	\$12,296,295	9,281,046	\$3,015,249	

Community Kick-off Celebration

It takes a whole city to drive success



Community Impact

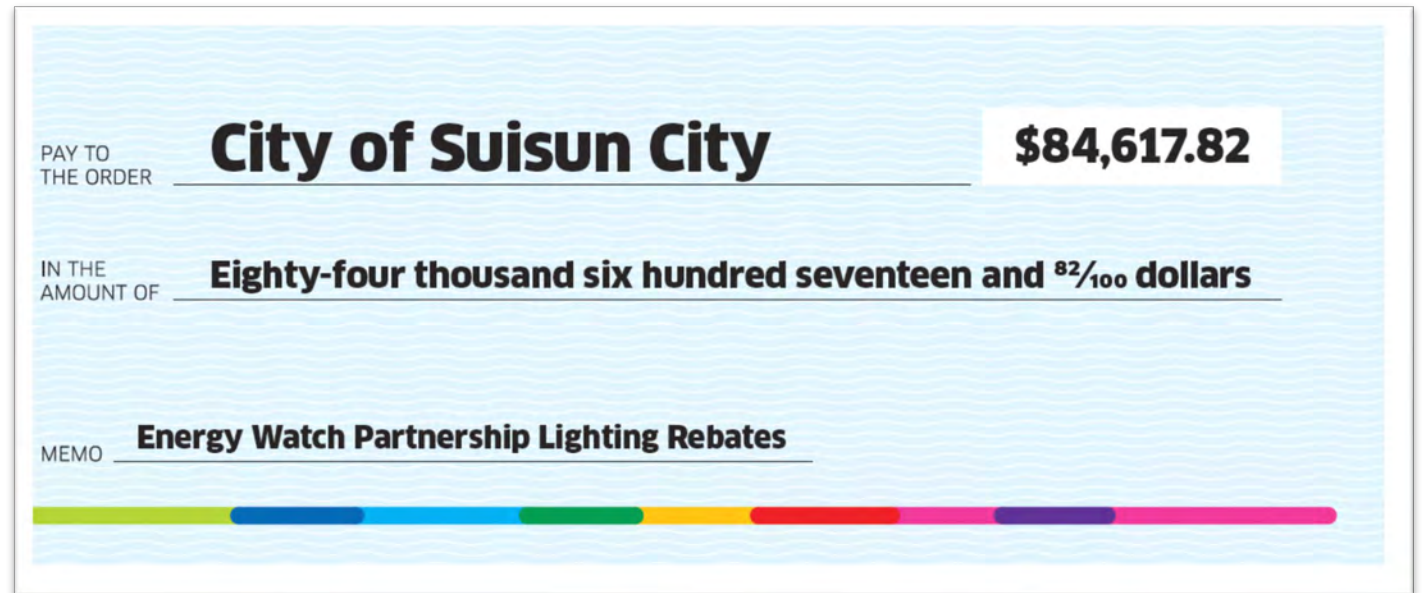
Changing lives with STEM



Community Impact: “Big Check”

Rebate raises profile of sustainability efforts

- Facilitated by Energy Watch partnership
- Boosts economic outcome
- Check presentation
- Media advisory



Conclusion

Efficiency, sustainability, and more

- Solar PV at five sites
- LED retrofits citywide
- Upgraded HVAC units

Results

- 60% lower electricity expenditure
- \$12 million operational savings—pays for the project!
- Sustainability leadership



More Bold Action &
Innovation
Coming Up...

City of Hercules



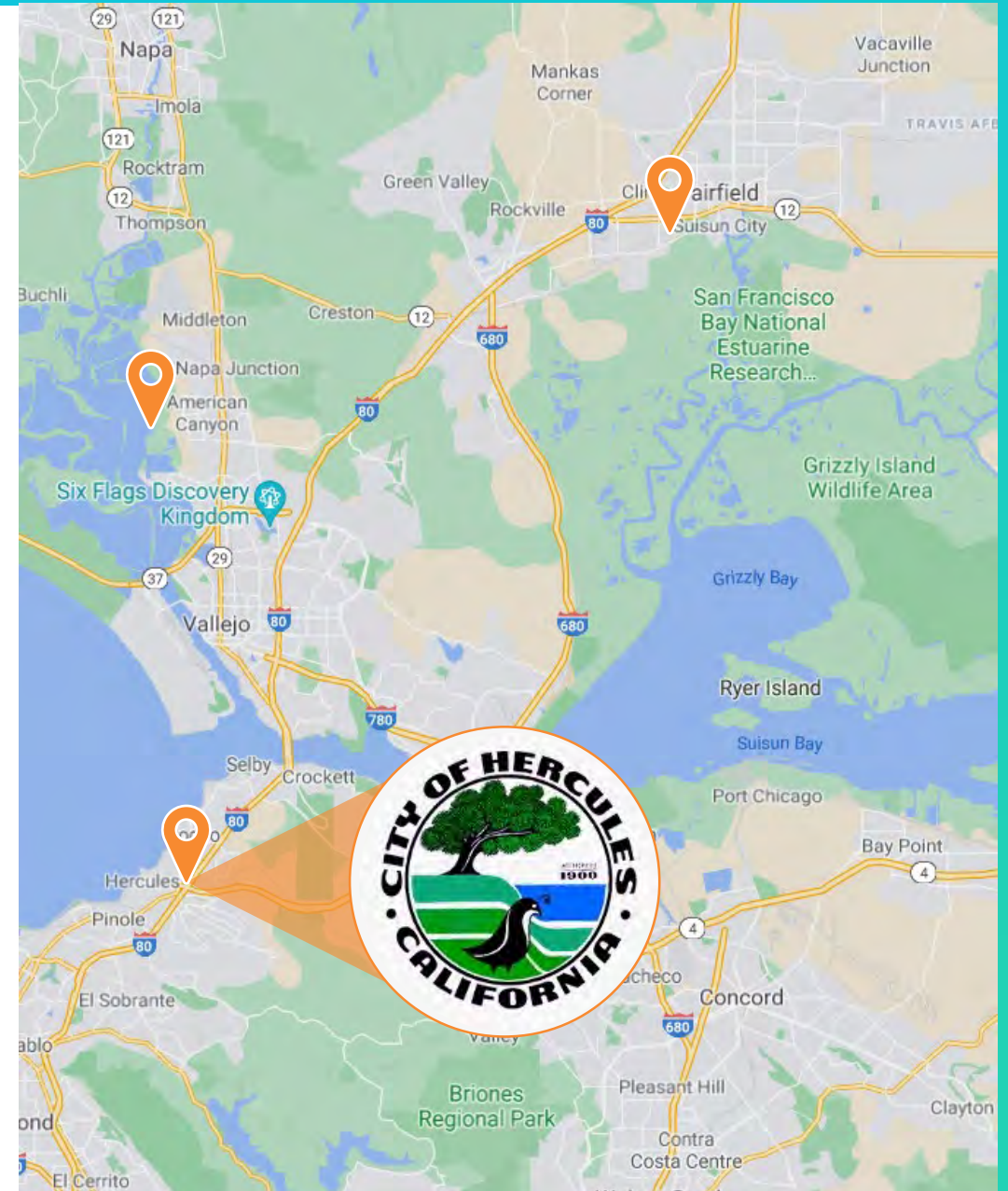
Dan Romero
 Council Member,
 City of Hercules



City Profile

Focused on customer service and excellence

- Incorporated in 1900
- Located along the I-80 corridor, within minutes of both San Francisco and Napa
- 26,067 residents
- Ethnically diverse
- Primarily suburban, family-oriented



How Did We Get Here?

- Feasibility Assessment (Budgetary) 2018
- Presentation to City Council July 2019
- Contra Costa Ribbon Cutting Aug 2019
- Project Development Contract Sept 2019
- Construction Project / Financing Approval June/July 2020

\$6.4 Million

in energy savings over
the life of the installation
after paying all project
costs

Achieves near “Net Zero
Energy (NZE)” at new
building






















Parking Lot Shade Canopies at new County Administration Building, Nov. 2018

**Contra Costa County
Ribbon Cutting Celebration, Aug. 2019**



Project Overview

Bundle or bust

	LED Lighting	Solar Generation (PV)	HVAC Recommission	Thermostats	EMS	EV Charging	HVAC Rebuild
City Hall & Senior Center						Conduit Only	
Public Library		Benefitting account 					
Community Center & City Pool						Conduit Only	
Teen Center		Benefitting account 					
Lighting & Landscape Districts						Basic Option	More Ambitious Option

Basic Option: LED Lighting Upgrades



Interior Lighting



Streetlight Locations



Decorative Streetlights

Solar for City Hall, Senior Center, Library

Before – Tree Removal Plan



After -- Employee and Police Parking



PG&E NEM-A Solar Tariff

- Generating Account
 - City Hall: 257 kW
- Benefitting Accounts
 - City Hall
 - Senior Center
 - Library

City Hall Visitor Parking Solar

Balance of environmental values

Visitor Parking (Before) – Tree Removal Plan



Visitor Parking Canopy (after)



Solar at Community Center



PG&E NEM-A Solar Tariff:

- Generating Account
 - Community Center: 126 kW
- Benefitting Accounts
 - Community Center
 - Teen Center

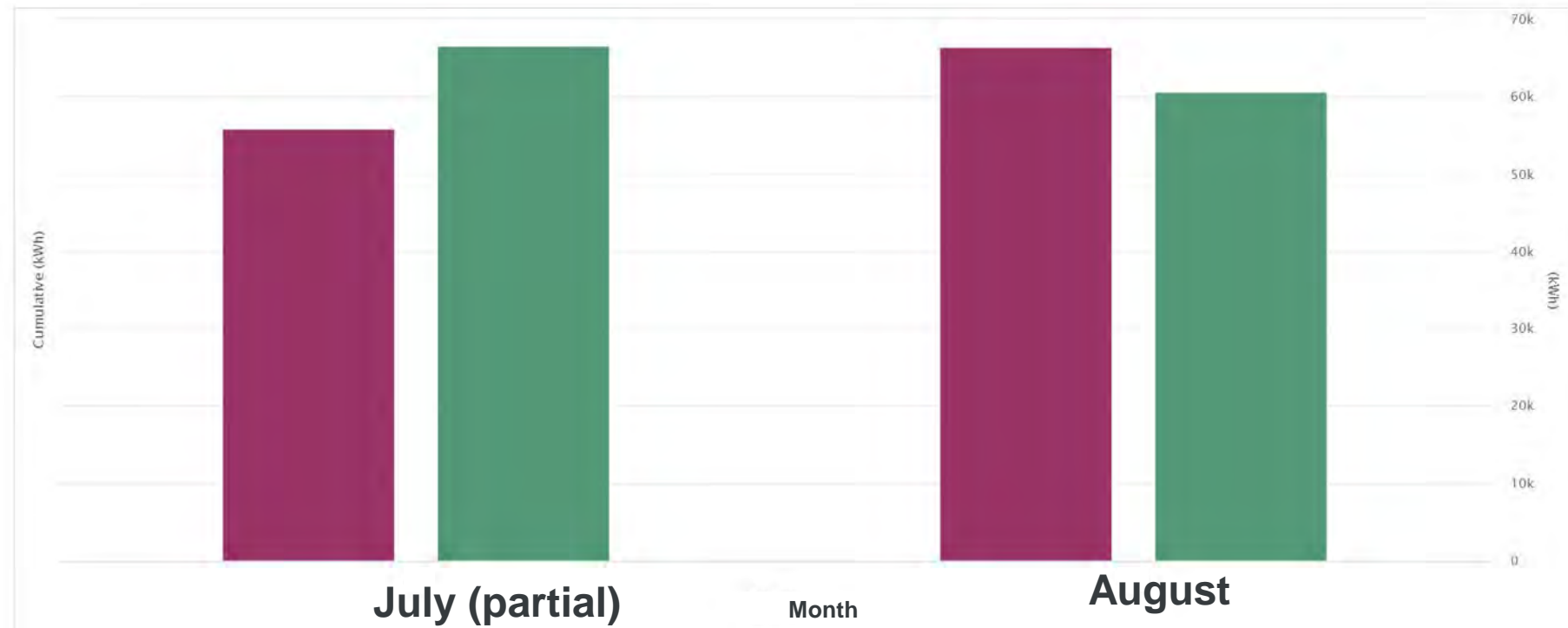


Solar Production Data

July (partial month) and August (full month)

● (All Sites) Total PV Production – Actual 2021 [Units] (kWh)

● (All Sites) Total PV Production – Projected 2021 [Units] (kWh)



Totals for 2 systems – City Hall and Community Center

Library HVAC Recommission



- HVAC retro-commissioning
- Smart thermostats and software controls



The More Ambitious Option

Add Replacement of Failing / End-of-Life Equipment

- Senior Center
 - Split systems
- City Hall
 - Cooling tower, pumps & piping
 - Boiler, pumps & piping
 - Water-source heat pumps



Out of sight, out of mind?

City Hall HVAC Construction



Financing Approach

Competitive Financing RFP

- Timing:
 - In the thick of COVID
 - High degree of uncertainty
- 3 banks responded
- Selected Sterling National Bank – most favorable terms
- Benefitted from historically low interest rates

Base vs More Ambitious Proformas

Base Option

Year	Total Program Savings	Step Loan Payment	Net Energy Program Savings
	H=E+F+G	L	J=H-L
Constr. Per	\$ 35,551	\$ -	\$ 35,551
1	\$ 186,699	\$ 152,420	\$ 34,279
2	\$ 195,428	\$ 161,148	\$ 34,279
3	\$ 204,565	\$ 170,285	\$ 34,279
4	\$ 203,351	\$ 169,071	\$ 34,279
5	\$ 213,042	\$ 178,762	\$ 34,279
6	\$ 223,193	\$ 188,913	\$ 34,279
7	\$ 233,826	\$ 199,546	\$ 34,279
8	\$ 244,963	\$ 210,684	\$ 34,279
9	\$ 256,630	\$ 222,350	\$ 34,279
10	\$ 268,850	\$ 234,570	\$ 34,279
11	\$ 281,650	\$ 247,370	\$ 34,279
12	\$ 295,057	\$ 260,778	\$ 34,279
13	\$ 309,101	\$ 274,821	\$ 34,279
14	\$ 323,811	\$ 289,531	\$ 34,279
15	\$ 339,219	\$ 304,940	\$ 34,279
16	\$ 207,542	\$ 173,263	\$ 34,279
17	\$ 217,057	\$ 182,777	\$ 34,279
18	\$ 227,003	\$ 192,724	\$ 34,279
19	\$ 237,402	\$ 203,123	\$ 34,279
20	\$ 248,274	\$ 195,849	\$ 52,424
21	\$ 259,639	\$ -	\$ 259,639
22	\$ 271,521	\$ -	\$ 271,521
23	\$ 283,942	\$ -	\$ 283,942
24	\$ 296,927	\$ -	\$ 296,927
25	\$ 310,502	\$ -	\$ 310,502
25 Year Total	\$ 6,374,743	\$ 4,212,927	\$ 2,161,816

Base Option:

- \$3.2M financing

More Ambitious Option

- \$4.2M financing

Both:

- 2.71% interest rate
- 5% annual utility escalation rate
- 0.5% annual solar panel degradation rate

More Ambitious Option

Year	Total Program Savings	Step Loan Payment	Net Energy Program Savings
	H=E+F+G+K	L	J=H-L
Constr. Per	\$ 35,551	\$ -	\$ 35,551
1	\$ 192,941	\$ 217,391	\$ (24,450)
2	\$ 201,982	\$ 226,432	\$ (24,450)
3	\$ 211,447	\$ 235,897	\$ (24,450)
4	\$ 210,576	\$ 235,026	\$ (24,450)
5	\$ 220,629	\$ 245,079	\$ (24,450)
6	\$ 231,159	\$ 255,609	\$ (24,450)
7	\$ 242,191	\$ 266,641	\$ (24,450)
8	\$ 253,747	\$ 278,196	\$ (24,450)
9	\$ 265,852	\$ 290,302	\$ (24,450)
10	\$ 278,533	\$ 302,983	\$ (24,450)
11	\$ 291,817	\$ 316,267	\$ (24,450)
12	\$ 305,733	\$ 330,183	\$ (24,450)
13	\$ 320,311	\$ 344,761	\$ (24,450)
14	\$ 335,581	\$ 360,031	\$ (24,450)
15	\$ 351,578	\$ 376,028	\$ (24,450)
16	\$ 220,519	\$ 244,969	\$ (24,450)
17	\$ 230,682	\$ 255,132	\$ (24,450)
18	\$ 241,310	\$ 265,760	\$ (24,450)
19	\$ 252,424	\$ 276,874	\$ (24,450)
20	\$ 264,047	\$ 264,302	\$ (255)
21	\$ 276,201	\$ -	\$ 276,201
22	\$ 288,911	\$ -	\$ 288,911
23	\$ 302,202	\$ -	\$ 302,202
24	\$ 316,100	\$ -	\$ 316,100
25	\$ 330,633	\$ -	\$ 330,633
26	\$ 352,727	\$ -	\$ 352,727
27	\$ 368,826	\$ -	\$ 368,826
28	\$ 385,656	\$ -	\$ 385,656
29	\$ 403,252	\$ -	\$ 403,252
30	\$ 421,648	\$ -	\$ 421,648
30 Year Total	\$ 8,604,765	\$ 5,587,863	\$ 3,016,902

Community Impact

Communication &
Celebration



Preschool Programming



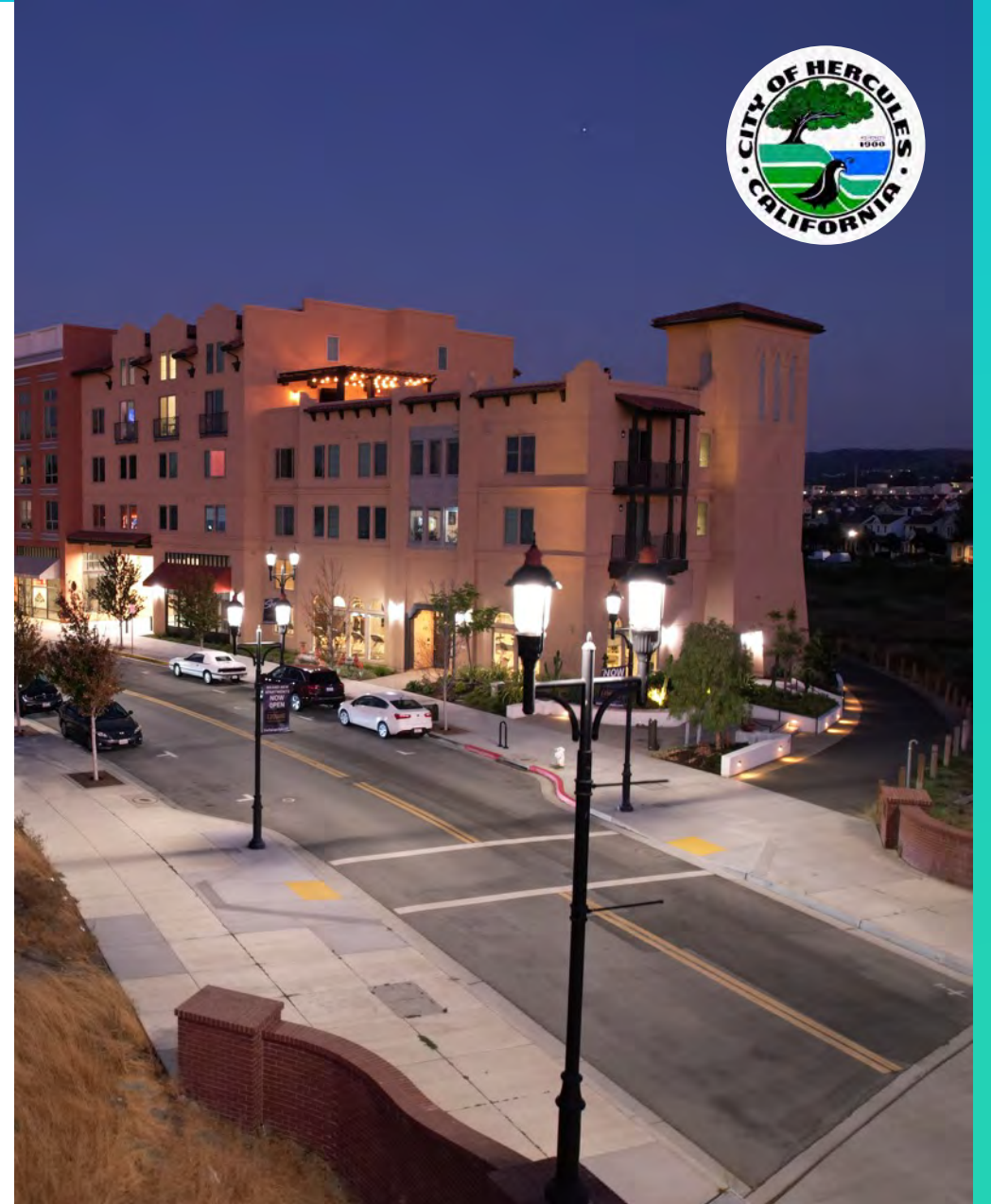
Ribbon Cutting Scheduled
for October 12

Teen & After School
Programming



Gains to the City of Hercules

- Expedited modernization of facilities and infrastructure
- Hedge against rising PG&E rates
- Demonstrated leadership in renewable energy and sustainability
- Created a legacy for current and future residents



City of American Canyon



Jason Holley
City Manager,
City of American Canyon

WERE
ALL IN
THIS
TOGETHER

WE'RE ALL IN THIS TOGETHER.

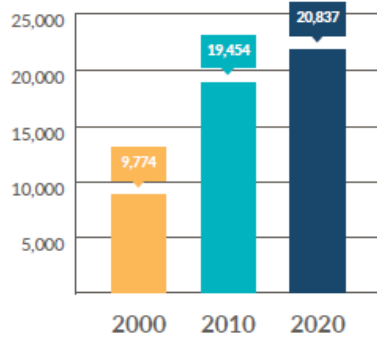


City of American Canyon

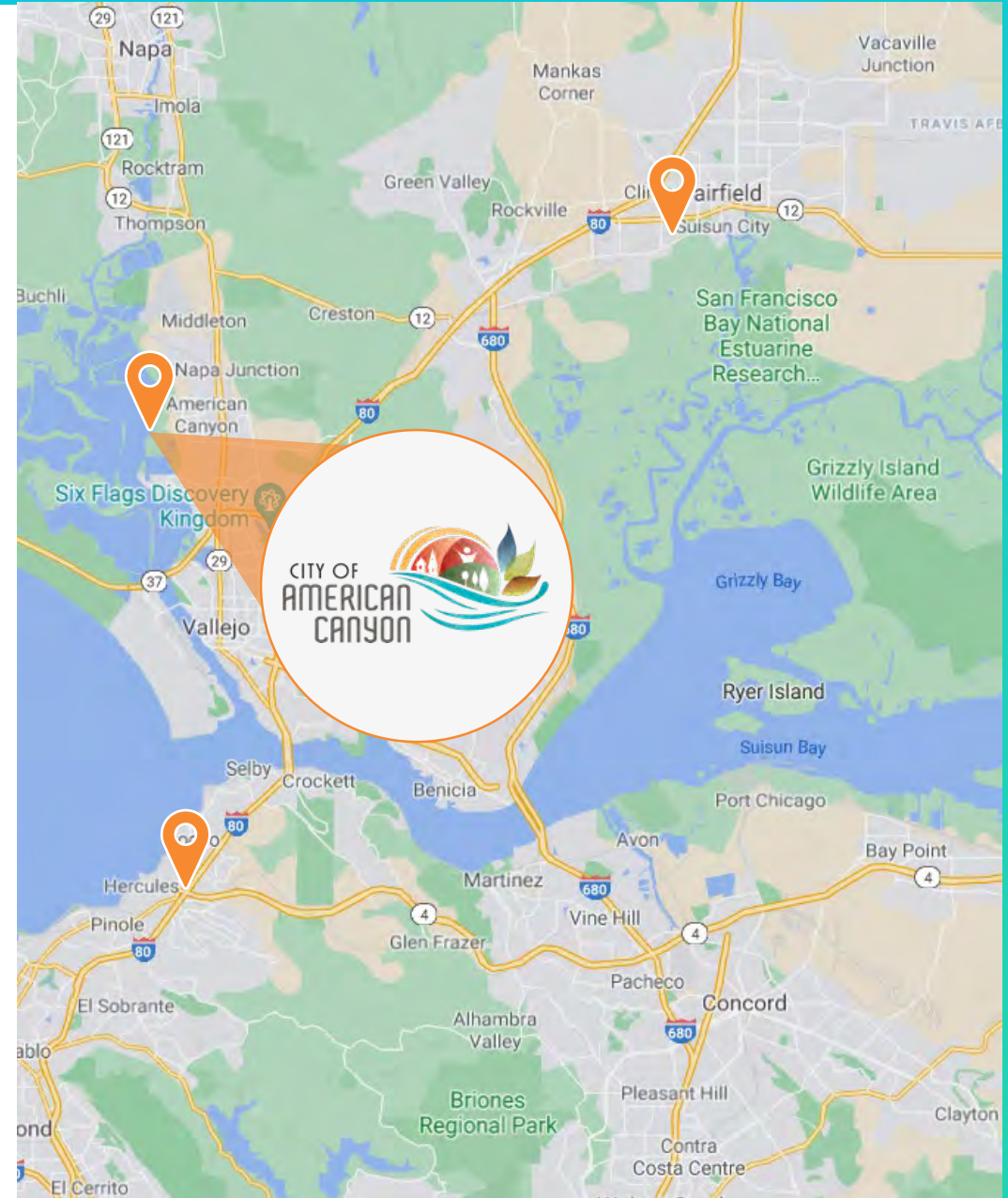
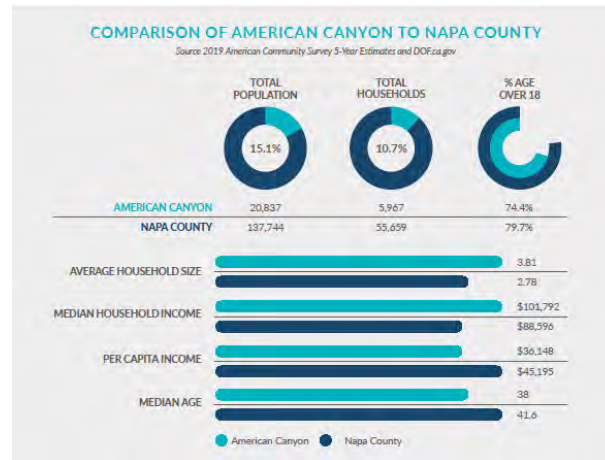
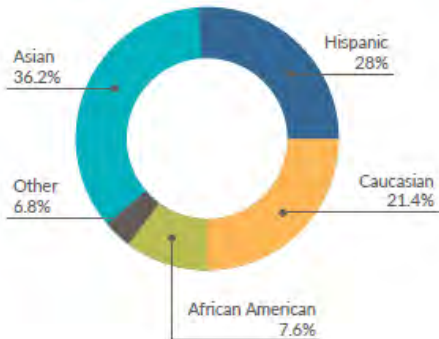
Diverse, thriving, & loving where we live

POPULATION AT A GLANCE

GROWTH OVER TIME



ETHNICITY BREAKDOWN

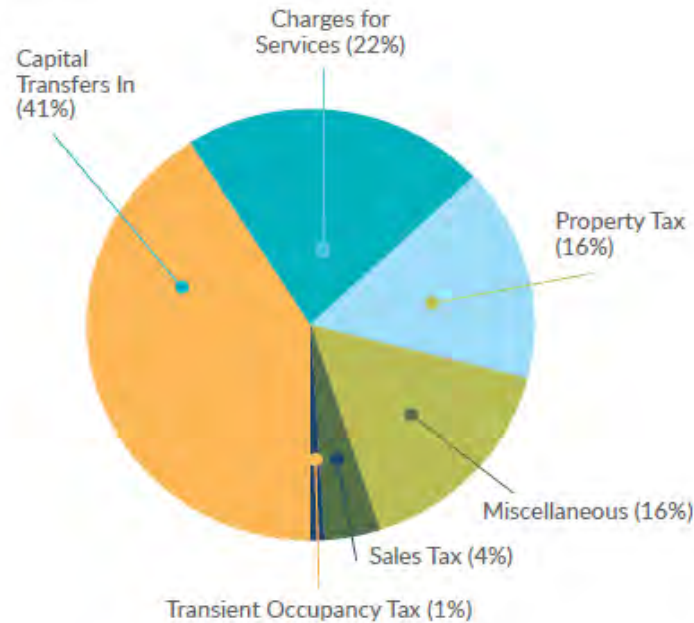


Fiscal Snapshot

WHERE DOLLARS COME FROM

REVENUES AT A GLANCE

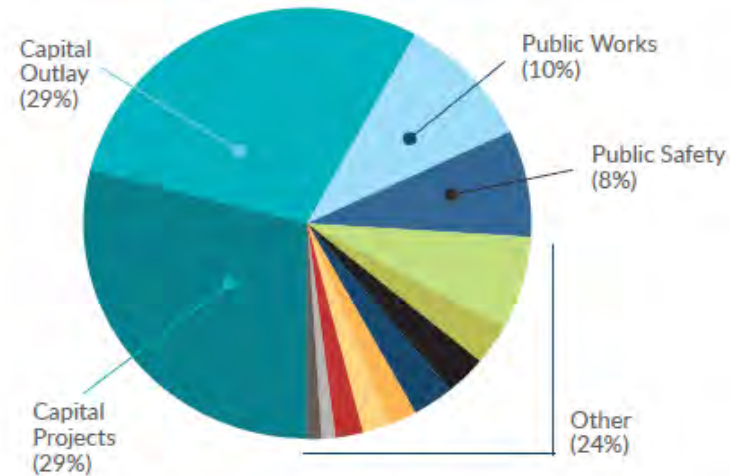
Capital Project Transfers In	\$ 36,865,904
Charges for Services	19,198,700
Property Tax	14,427,700
Miscellaneous	14,324,596
Sales Tax	3,506,700
Transient Occupancy Tax	967,600
Citywide	\$ 89,291,200



WHERE DOLLARS ARE SPENT

EXPENDITURES AT A GLANCE

Capital Projects	\$ 27,745,300
Capital Outlay	27,075,500
Public Works	9,927,800
Public Safety	7,599,000
Non-Departmental	6,326,100
Administration	3,056,300
Debt Service	2,903,500
Maintenance + Utilities	2,767,100
Internal Service	2,403,000
Community Development	1,803,500
Parks & Recreation	1,632,500
Finance	1,275,500
Development Projects	388,200
Citywide	\$ 94,903,300



Wildfires, Covid-19 and Balancing Budgets

Leadership and Leaning-in during a time of crisis

General Fund (GF) Challenges:

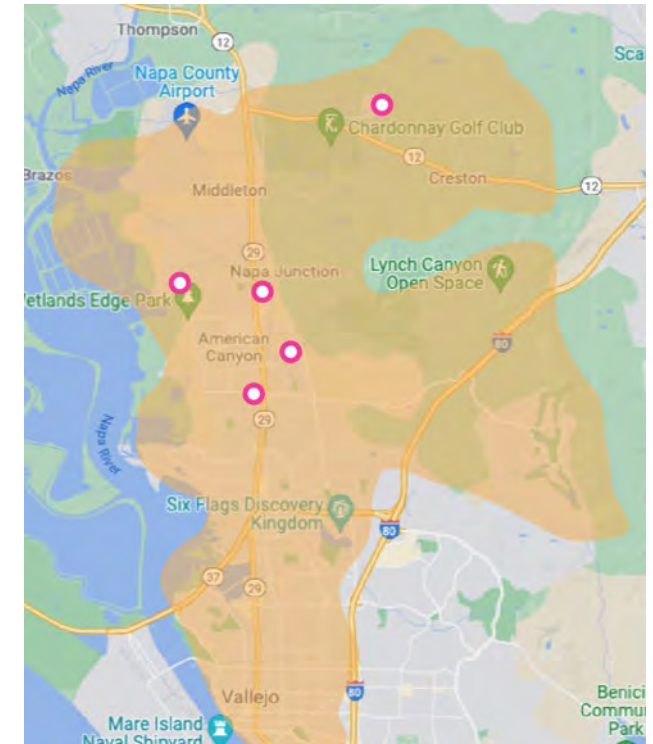
- Sales Tax and TOT revenue decreases
- Expenditure Increases (COLA, PERS. ISF etc.)
- \$3.2 Million shortfall
- 12-15% loss of FY 2019-20 from small business deferrals

Balancing the Budget:

- Eliminated GF CIP
- Reduce community events
- Eliminate funding for 4 vacant positions
- Reduce non-essential overtime
- Laid off 53 part-time parks & rec employees
- Reduce all non-essential travel & training

Public Safety Power Shutoffs (PSPS):

- Oct. 9th 2019 - 48 hour outage
- Oct. 26th 2019 – 96 hour outage



- Water Reclamation Facility (WRF)
- Water Treatment Plant (WTF)
- Public Safety Building
- City Hall
- Parks & Recreation

Broad Response to Climate Change

Multi-pronged, integrated sustainability

	LED Lighting	Solar Generation (PV)	Battery Storage	HVAC	EMS	EV Charging	Emergency Generators
Water Reclamation Facility							
Water Treatment Plant							
Public Safety Building							
City Hall							
Senior Center							
Corp Yard							

Project Photos

Water Reclamation Facility



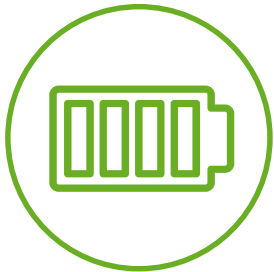
Project Photos

City Hall, Public Safety Building, Water Treatment Plant



Better Prepared for the Next Outage

Microgrids = resiliency + environmental sustainability



- Maintains critical operations during power shutoffs
- Reduces demand charges
- Is a secured solar investment with improved performance
- Helps us avoid unfavorable tariff rates and bills

Microgrid.

A group of interconnected loads and distributed energy resources, within clearly defined electrical boundaries, that acts as a single controllable entity with respect to the grid. [U.S. DOE]

How to Grow a Microgrid

Phased implementation

Fiscally sustainable

Building Block First Phase

120 kW battery storage system and 500 kW solar at the Water Reclamation Facility

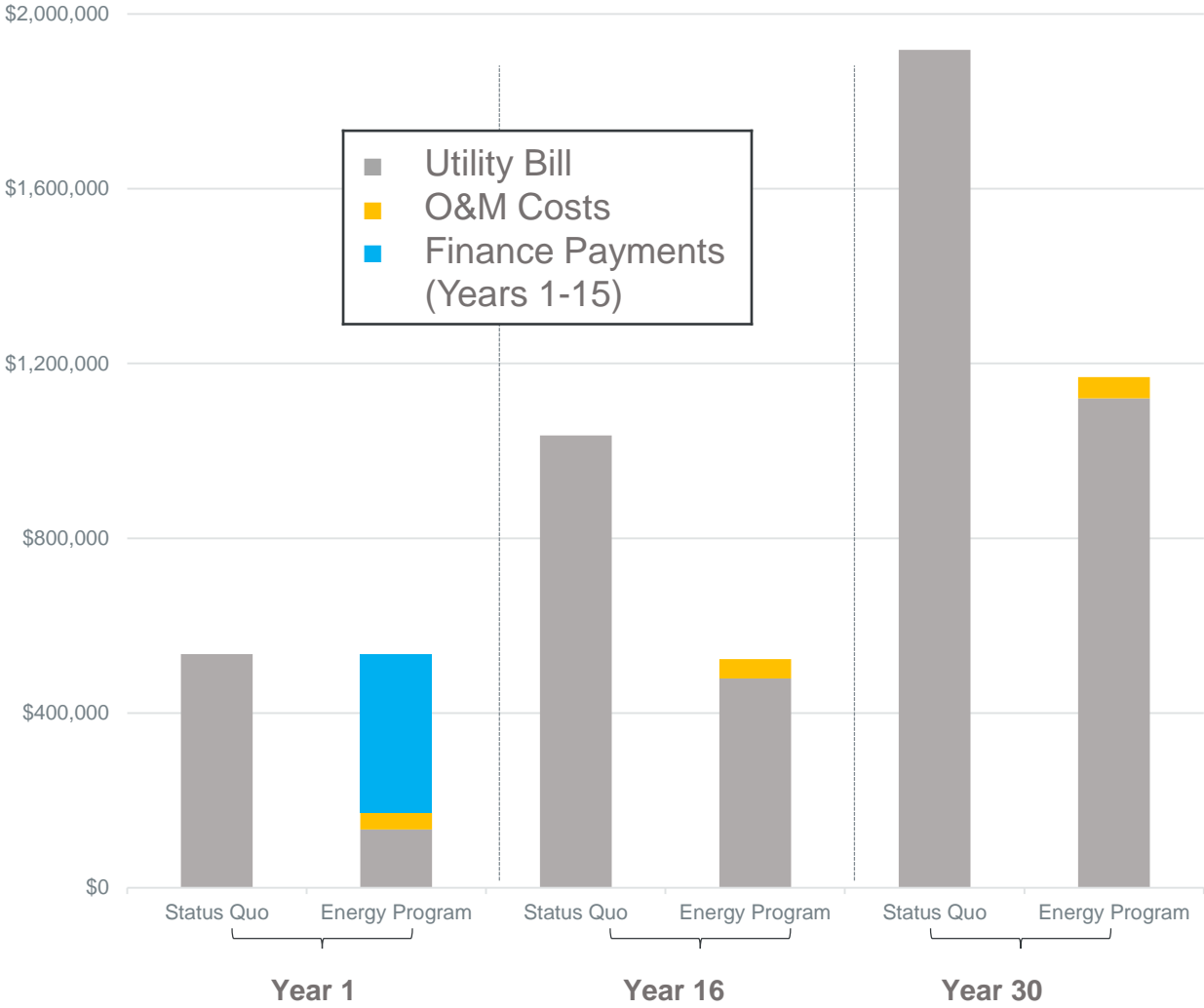
Emergency generators at 3 additional locations:

- 250 kW at the Water Treatment Plant
- 120 kW at the City Hall
- 300 kW at the Corp Yard



	WRF	WTP
Completed or In Progress	<input type="checkbox"/> Battery <input type="checkbox"/> Generator <input type="checkbox"/> Solar <input type="checkbox"/> Switchgear	<input type="checkbox"/> Generator <input type="checkbox"/> Solar
Remaining (2nd Phase)	<input type="checkbox"/> Hardware & Software controls	<input type="checkbox"/> Battery <input type="checkbox"/> Hardware & Software controls

Estimated Energy Cost Savings



Expected Electricity Bill (FY 20/21)	\$535,123
Lifetime Net Savings (30 yrs.)	~\$9MM

Sensitivity Analysis



Funding Sources

- Cal OES (Office of Emergency Services) PSPS grants
- Tax-exempt low interest financing
- Self-Generation Incentive Program (SGIP)
- Marin Clean Energy (MCE) EV charging rebate
- Foresight to lock in PG&E's favorable grandfathered tariff for solar Net Metering 3 years ago to improve savings

(Cal OES Use Only)

Cal OES #	PPS #	VS#	Subaward #
-----------	-------	-----	------------

**CALIFORNIA GOVERNOR'S OFFICE OF EMERGENCY SERVICES
GRANT SUBAWARD FACE SHEET**

The California Governor's Office of Emergency Services (Cal OES) hereby makes a Grant Subaward of funds to the following:

1. **Subrecipient:** City of American Canyon 1a. **DUNS#:** 789784550

2. **Implementing Agency:** Maintenance and Utilities Department 2a. **DUNS#:**

3. **Implementing Agency Address:** 4381 Broadway Street American Canyon 94503-9604
(Street) (City) (Zip+4)

4. **Location of Project:** 4381 Broadway Street Napa 94503-9682
(City) (County) (Zip+4)

5. **Disaster/Program Title:** COMMUNITY POWER RESILIENCY ALLOCATION TO CITIES PROGRAM 6. **Performance Period:** 7/1/2020 to 10/31/2021
(Start Date) (End Date)

7. **Indirect Cost Rate:** N/A Federally Approved ICR (if applicable): %

Item Number	Grant Year	Fund Source	A. State	B. Federal	C. Total	D. Cash Match	E. In-Kind Match	F. Total Match	G. Total Cost
8.	2020	PSPS	\$300,000			\$4,246,227		\$4,246,227	\$4,546,227
9.	Select	Select							
10.	Select	Select							
11.	Select	Select							
12.	Select	Select							
Total	Project	Cost	\$300,000		\$300,000	\$4,246,227		\$4,246,227	\$4,546,227

13. **Certification:** This Grant Subaward consists of this title page, the application for the grant, which is attached and made a part hereof, and the Assurance/Certification. I hereby certify I am vested with the authority to enter into this Grant Subaward, and have the approval of the City/County Financial Officer, City Manager, County Administrator, Governing Board Chair, or other Approving Body. The Subrecipient certifies that all funds received pursuant to this agreement will be spent exclusively on the purposes specified in the Grant Subaward. The Subrecipient accepts this Grant Subaward and agrees to grant project in accordance with the Grant Subaward as well as all applicable state and federal laws, audit requirements, federal program guidance, and program policy and program guidance. The Subrecipient further agrees that the allocation of funds may be contingent on the enactment of the State Budget.

14. **CA Public Records Act:** Grant applications are subject to the California Public Records Act, Government Code section 6250 et seq. Do not identify identifiable information or private information on this application. If you believe that any of the information you are putting on this application is Public Records Act, please attach a statement that indicates what portions of the application and the basis for the exemption. Your statement information is not subject to the Public Records Act will not guarantee that the information will not be disclosed.

15. **Official Authorized to Sign for Subrecipient:**
 Name: Felix Hernandez III Title: Maintenance and Utilities Director
 Payment Mailing Address: 4381 Broadway Street City: American Canyon Zip Code+4:
 Signature: _____ Date: _____

16. **Federal Employer ID Number:** 680264744

(FOR Cal OES USE ONLY)

I hereby certify upon my personal knowledge that budgeted funds are available for the period and purposes of this expenditure stated above.

(Cal OES Fiscal Officer) (Date) (Cal OES Director or Designee)



Educational Outreach

Sustainability in the community: We're all in this together!



- Energy saving tips
- Pollution Prevention Week
- Earth Day home kits
- Wastewater college internships
- High school internships
- Parks and Rec nature camp
- Sustainability Website page

'ENERGIZING' AMERICAN CANYON
ENGIE SUSTAINABILITY PROGRAM IMPACTS

\$9M in savings over 30 years

FISCAL RESPONSIBILITY SUSTAINABILITY RESILIENCY

ENVIRONMENTAL IMPACT OF SOLAR PV INSTALLATIONS

1.78 kWh = 1258.4 = 20,809
of electricity produced annually metric tons of CO₂ reduced from the atmosphere seedlings planted & grown for 10 years

COMMUNITY IMPACT FROM TECHNOLOGIES

WiFi at City Hall
Free internet access for visitors and community

4 EV chargers at City Hall
For use by residents and visitors

Indoor & outdoor LED lighting
1322 new fixtures improve lighting quality for employees and visitors while saving energy and money

Back-up energy generation
Improves resiliency and safeguards our community during emergencies like wildfires

EDUCATION PROGRAMS

Internships
Opportunities for local community college students with the water department and local high school students around energy and efficiency

STEAM Partnership
Engaging, educational STEAM programming delivered through Parks & Recreation Department

Citizen's Academy
ENGIE will connect with high school students around energy and sustainability issues

WE ❤️ *everyone* IN AMERICAN CANYON



Bold Action & Innovation
During Crisis
Benefits Tomorrow &
Today.