CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Matt Loesch
Lori Mitchell
Jim Shannon

SUBJECT: **SEE BELOW**

DATE: November 6, 2023

Approved

Date 11/16/2023

SUBJECT: MUNICIPAL MICROGRIDS PROGRAM FUNDING APPROVAL FOR INITIAL STUDIES TO DEVELOP A POWER PURCHASE AGREEMENT TO IMPLEMENT A SUITE OF MICROGRIDS AT CRITICAL CITY FACILITIES

RECOMMENDATION

(a) Authorize the use of up to $1,000,000 from the San José Clean Energy Fund for the Public Works Department to hire a consultant(s) to conduct high-level studies and preliminary design plans for a suite of municipal microgrids at City facilities, in preparation for development of a power purchase agreement bid scope.

(b) Adopt the following 2023-2024 Appropriation Ordinance Amendments in the San José Clean Energy Fund:

(1) Establish the Municipal Microgrids Program appropriation to the Public Works Department in the amount of $1,000,000; and
(2) Decrease the Unrestricted Ending Fund Balance by $1,000,000.

SUMMARY AND OUTCOME

Approval allows the Public Works Department (Public Works) to explore the feasibility of installing solar and energy storage facilities at approximately 30 critical City facilities. The funding would be used to hire consultants to perform high-level studies and develop preliminary design plans that are necessary for the development of a power purchase agreement (PPA) for the installation of solar and energy storage facilities. Public Works will hire consultant(s) to conduct the studies, including site feasibility, electrical sizing, and lifetime cost estimates and provide preliminary design plans that will inform the scope and pricing structure of the PPA. The funding may also be used to cover internal soft costs such as City Facilities Architectural

Services oversight and City Facilities Management Electrical Services project review and electrical support.

BACKGROUND

Microgrids are a group of buildings and distributed energy resources such as solar and battery storage that can connect and disconnect from the power grid. During power outages, microgrids allow buildings to "island" from the power grid and be powered by the connected distributed energy resources.

On October 2, 2023, the Public Works Municipal Microgrids Program presented an update to the Transportation and Environment Committee and received direction to move forward on the development of a PPA for a suite of 30 or more microgrid locations. In that update, staff committed to seeking City Council approval to spend up to $1.0 million on the development of high-level studies to inform the PPA scope prior to moving forward on final budgeting assessments and a request for offers process.

The basic structure of a PPA rolls upfront and ongoing costs such as contracting, maintenance, and implementation into a monthly bill based on energy generation of the microgrid system over the contract life. All construction and on-going costs are covered either by the developer or a third-party financier, so the City does not need to make a capital investment. Public Works staff estimated capital costs to be up to $2 million per site for two sites that already have design-build plans, Roosevelt Community Center and Happy Hollow Park and Zoo. Instead of paying capital costs upfront, departments operating the facilities would pay a fixed monthly price for the resiliency benefits and energy generated by the resources over a fixed term, usually 20 years. The developer owns, operates, and maintains the resources, thereby bearing the risk associated with ownership. The aggregation of facilities into a single agreement is essential to take advantage of economies of scale to lower individual costs of built systems.

While the PPA system eliminates most upfront costs (replaced by monthly payments), some initial investment is necessary to provide a refined scope that will attract the highest quality bidders. Specifically, initial site assessments are required, including identifying the capacity of solar and storage needed, determining the scope of work for construction and electrical improvements, and modeling electricity bill savings for the departments operating the facilities. Providing preliminary design plans also ensures quality control and clarity of scope.

Energy Department staff developed cost estimates for the initial site studies by interviewing and assessing similar costs of other local community choice aggregators. Energy Department staff estimate up to $1 million (approximately $30,000 per site) will be needed to contract with consultant(s) to conduct the high-level site assessments and provide preliminary design plans for at least 30 facilities. This information will feed into a request for offers process for selecting a PPA developer.

ANALYSIS

The Public Works and Energy Departments have been developing a funding strategy for the site studies and feasibility analysis whereby initial funding of up to $1 million would be provided by the San José Clean Energy Fund. This funding would be used to support the upfront work with consultant(s) to conduct the high-level site assessments and provide preliminary design plans for approximately 30 facilities. The San José Clean Energy Fund would provide the initial funding for this work and be reimbursed over time through a fee, included in the monthly PPA payments paid by departments over the PPA agreement term. Public Works will manage the consulting contract(s) and provide design and project review through its City Facilities Architectural Services and City Facilities teams. These high-level studies will inform the final scope and pricing structure of the PPA.

Staff are concurrently working on developing an internal memorandum of agreement for the PPA's interdepartmental payment structure. Interdepartmental solar generation is a utility that is paid through interdepartmental utility billings, and capital improvements to facilities are paid by the owner department. Once the PPA is established, each department that owns a PPA-covered facility will be responsible for paying its monthly bills. Since the energy generation costs of a PPA typically represent savings over traditional utility-provided energy generation over the PPA term, an initial analysis of expected pay-back periods is one of the necessary high-level studies that will be included in the site scoping studies. For some facilities, it may be possible to realize net utility savings from the start, with optimal management of solar and battery resources. For most facilities net utility savings may not be realized for several years. Depending on the sizing of the solar and storage and the level of resiliency required to meet emergency functions, some facilities may not achieve net savings over the project lifetime. Initial studies will estimate the payback period for each facility so that the City can weigh any additional costs that result from the projects with the added resiliency benefits they provide prior to including these sites on a bid package for a PPA. The results of the high-level site studies will inform the final net savings expected at each site as well as the final payment structure for the memorandum of agreement.

The 30 sites mapped and listed in the **Attachment** represent the City's highest priority locations for microgrid implementation, which are critical community-serving facilities without backup generation. Results of these initial scoping studies may elucidate challenges for implementing solar and battery backup options at some locations or show that some locations will not be able to achieve net savings, as discussed above; such discoveries could change the final locations for the PPA's final scope. Public Works manages 97 additional facilities that are deemed critical and currently have diesel generators for backup power. If initial site studies reveal the need to change the priority site list, these additional facilities will be considered for inclusion in the PPA.

EVALUATION AND FOLLOW-UP

Approval of the recommendation will ensure the Municipal Microgrids Program can conduct the necessary studies and research needed to publish a Request for Offers for a PPA with the goal of building a suite of approximately 30 microgrid locations in San José, which will represent a

dramatic scaling of program efforts. If the City Council approves the recommendations in this memorandum, staff will return for City Council approval prior to executing a PPA between the City and a developer to implement the microgrids.

COST SUMMARY/IMPLICATIONS

Funding of up to $1.0 million will be allocated in a newly established Municipal Microgrids Program appropriation within the San José Clean Energy Fund (Fund 501). This funding will support consultant work to study high-level site assessments and provide preliminary design plans for approximately 30 City facilities. Public Works will manage the consulting contract(s) and provide design and project review through its City Facilities Architectural Services and City Facilities teams. As discussed above, the results of the high-level site studies will inform the final net savings expected at each site as well as the final payment structure for the memorandum of agreement, which will be available for City Council consider should an PPA be brought forward at a later date for implementation.

BUDGET REFERENCE

The table below identifies the fund and appropriations recommended to be amended as part of this memorandum.

Fund #	Appn #	Appn. Name	Current Appn	Recommended Budget Action	2023-2024 Adopted Operating Budget Page	Last Budget Action (Date, Ord. No.)
501	New	Municipal Microgrids Program	N/A	$1,000,000	N/A	N/A
501	8999	Ending Fund Balance	$82,901,447	($1,000,000)	1052	10/17/2023 Ord. No. 30966

COORDINATION

This memorandum has been coordinated with the City Attorney’s Office.

PUBLIC OUTREACH

This memorandum will be posted on the City’s Council Agenda website for the November 28, 2023 City Council meeting.

COMMISSION RECOMMENDATION AND INPUT

No commission recommendation or input is associated with this action.

CEQA

Environmental status granted by the Planning, Building and Code Enforcement Department. The proposed recommendation is CEQA Statutorily Exempt, File No. PP17-001, CEQA Guidelines Section 15262, Feasibility and Planning Studies.

PUBLIC SUBSIDY REPORTING

This item does not include a public subsidy as defined in section 53083 or 53083.1 of the California Government Code or the City's Open Government Resolution.

/s/
MATT LOESCH
Director, Public Works

/s/
LORI MITCHELL
Director, Energy Department

JIM SHANNON
Budget Director

For questions, please contact Carol Boland Whattam, Program Manager of Microgrids, at (408) 839-7563.

Attachment: Site Map and List of 30 Community-Serving Locations for Priority Microgrid Implementation

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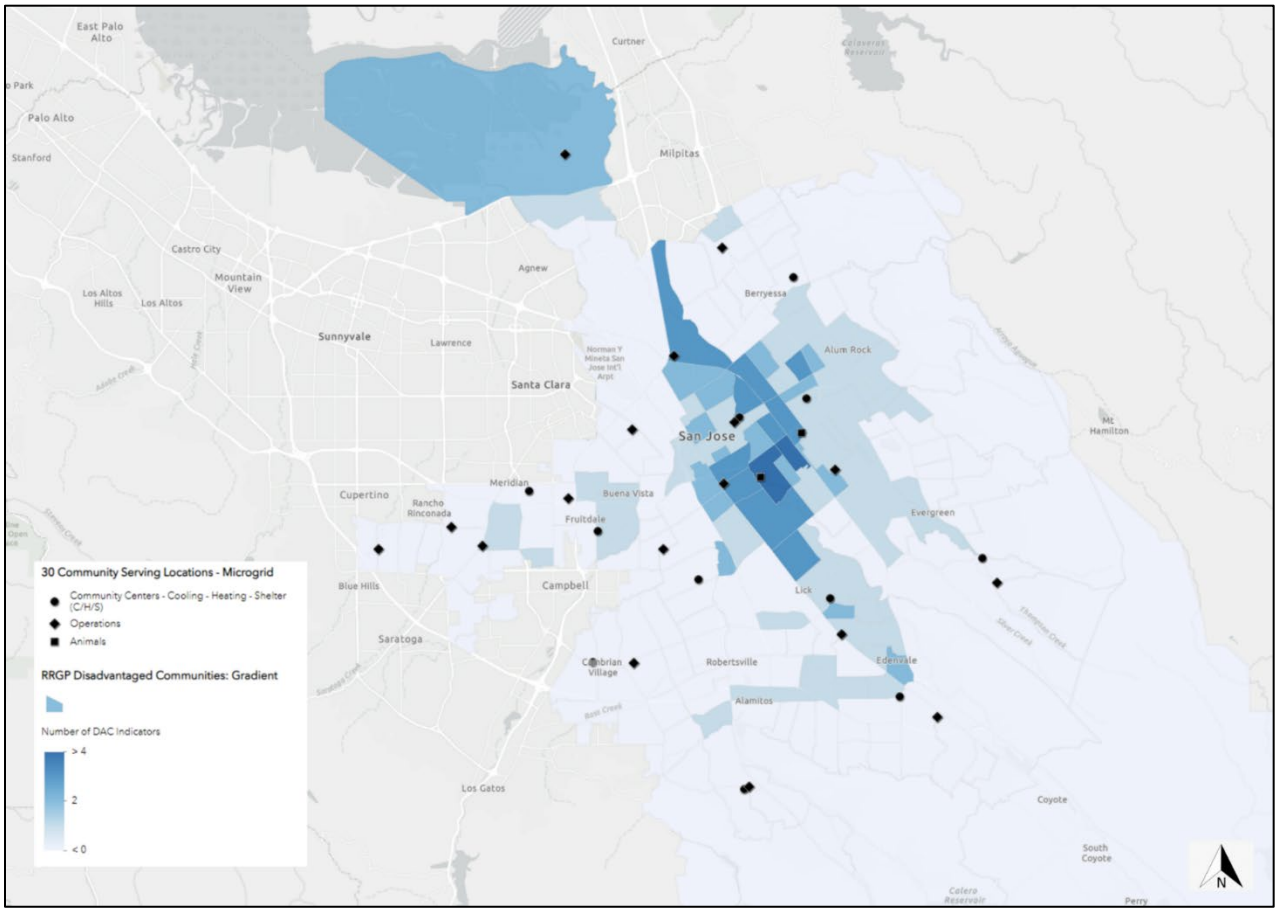
***Map of 30 Community-Serving Locations for Priority Microgrid Implementation*.** All listed sites are critical facilities without backup generation, including 11 community centers designated as emergency shelters (*Community Center – Cooling – Heating - Shelter* category), two community centers with adjacent care facilities for rare or endangered animal species (*Animal Care* category), 14 Fire Stations and three Municipal Fleet Stations (*Operations* category). Of the sites, 46% are located in and 73% are adjacent to recognized disadvantaged communities. The Disadvantaged Communities gradient (*Number of DAC Indicators* category) indicates the number of DAC thresholds met within the delineated census tract: zero (lightest hue) indicating no DAC influence in or adjacent to the census track, one to three indicating that the census track meets between one to three different DAC thresholds, up to four (darkest blue) indicating the census track meets all DAC thresholds under CalEnviroScreen 4.0, CalEnviroScreen 3.0, California Air Resources Board, and Department of Water Resources. All DAC layers were downloaded to the City's ArcGIS database directly from the Regional Resilience Grant Program mapping tool and overlayed with the City's *30 Community Serving Locations - Microgrid* layer to produce this image.



List of 30 Community-Serving Locations for Priority Microgrid Implementation. All listed sites are critical facilities without backup generation, including 11 community centers designated as emergency shelters (*Community Center* category), two community centers with adjacent care facilities for rare or endangered animal species (*Animal Care* category), 14 Fire Stations and three Municipal Fleet Stations (*Operations* category).

Category	Site Name	Address
Community Center	Almaden Community Center/Library	6445 Camden Ave
Community Center	Berryessa Community Center	3050 Berryessa Rd
Community Center	Camden Community Center	3369 Union Ave
Community Center	Cypress Community Center	403 S Cypress Ave
Community Center	Evergreen Community Center	4860 San Felipe Rd
Community Center	Mayfair Community Center	2039 Kammerer
Community Center	Roosevelt Community Center	901 E Santa Clara St
Community Center	Seven Trees Community Center	3590 Cas Dr
Community Center	Southside Community Center	5585 Cottle Rd
Community Center	Willows Senior Center	2175 Lincoln Ave
Community Center	Bascom Community Center	1000 S Bascom Ave
Animal Care	Emma Prusch Farm & Park	647 S King Rd
Animal Care	Happy Hollow Park and Zoo	1300 Senter Rd
Operations	Fire Station #3	98 Martha St
Operations	Fire Station #5	1380 N 10th St
Operations	Fire Station #6	1386 Cherry Ave
Operations	Fire Station #7	800 Emory St
Operations	Fire Station #8	802 E Santa Clara St
Operations	Fire Station #9	3410 Ross Ave
Operations	Fire Station #10	511 S Monroe St
Operations	Fire Station #11	2840 Villages Pkwy
Operations	Fire Station #14	1201 San Tomas Aquino Rd
Operations	Fire Station #15	1248 Blaney Ave
Operations	Fire Station #16	2001 S King Rd
Operations	Fire Station #18	4430 S Monterey Hwy
Operations	Fire Station #22	6461 Bose Ln
Operations	Fire Station #23	1771 Via Cinco de Mayo
Operations	Wastewater Facility Fueling Station	700 Los Esteros Rd
Operations	West Yard Fueling Station	5090 Williams Rd
Operations	Police Substation Fueling Station	6087 Great Oaks Pkwy