

CITY OF SANTA ROSA
CITY COUNCIL

TO: MAYOR AND CITY COUNCIL
FROM: DOUGLAS WILLIAMS, FACILITIES MAINTENANCE AND
OPERATIONS COORDINATOR, DEPARTMENT OF
TRANSPORTATION AND PUBLIC WORKS
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SUBJECT: ENERGY AUDIT AND MICROGRID STUDY

AGENDA ACTION: MOTION

RECOMMENDATION

It is recommended by the Department of Transportation and Public Works, that the Council, by motion, direct the Transportation and Public Works Department to pursue solar and Microgrid options for the Municipal Service Center North complex.

EXECUTIVE SUMMARY

The Transportation and Public Works Department has been delegated the responsibility of maintaining the City's buildings and public structures and to reduce greenhouse gas emissions. To improve the Department's ability to properly deploy staff resources, develop a long-term maintenance program, and assist City Council with Climate Action goals, staff is recommending that Council, by motion, direct the Transportation and Public Works Department to pursue an option for funding solar at Municipal Service Center North (MSCN) recommended by AECOM.

A Business Plan was developed that investigates different financing mechanisms for implementation of the decarbonization plan including Energy Savings Performance Contract (ESPC), Power Purchase Agreement (PPA) and Energy Service Agreement (ESA). For each of these mechanisms, the business plan studies life cycle cost analysis, return on investment, operations and maintenance forecasting, as well as risk analysis.

BACKGROUND

The Facilities Maintenance section completed a facilities assessment and maintenance analysis in January 2018. The consultant assessed the structures, building systems,

and infrastructure components for the general fund supported buildings. The Facility Condition Assessment identified current deferred maintenance, recommended annual maintenance funding levels, and prioritized capital improvements and major repairs necessary to maintain the facilities.

In July 2021, AECOM completed a detailed feasibility study for Santa Rosa to help the City identify cost-effective opportunities for reducing Greenhouse Gas (GHG) emissions and improve the resiliency of the city's operations. Under this scope, AECOM performed a detailed investigation to analyze the feasibility of deploying microgrids at two city building clusters as well as identify opportunities for installation of solar photovoltaics and energy efficiency measures at all city facilities and parks.

In October 2021, the Climate Action Subcommittee requested that the Transportation and Public Works Department (TPW) perform a more robust analysis for the MSCN, provide a business plan, and provide funding options to City Council.

AECOM performed a detailed investigation and study to analyze the feasibility of deploying microgrids at two city building clusters as well as identify opportunities for installation of solar photovoltaics (PV) and energy efficiency measures at all city facilities and parks. A total of 47 city facilities and 63 parks were included in the scope; 9 buildings were also investigated for microgrid deployment. Utilizing the data obtained during detailed site visits, as well as information provided by city staff, AECOM developed a comprehensive suite of solutions across three main aspects of the scope:

- Energy Efficiency
- Renewable Energy
- Transportation Electrification

As a result of the audit, it was determined that the MSCN was the best location for solar, battery storage, and a possible microgrid installation.

PRIOR CITY COUNCIL REVIEW

On January 28, 2020, during the Study Session (3.1) City Council directed TPW to pursue an Energy Audit for city facilities.

On March 29, 2022, (12.4) City Council approved an amendment with AECOM to create a business plan to analyze funding opportunities for installation of solar PV systems at MSCN, the Laguna Treatment Plant and the Utilities Field Offices (UFO); this will additionally provide an analysis of energy efficiency for the mechanical systems at MSCN.

ANALYSIS

As a result of the facilities assessment completed in January 2018 as well as an Energy Audit in July 2021, the City of Santa Rosa understands the condition of our fixed building assets.

A business plan was developed using the financial outputs of the decarbonization plan to analyze the cash flow of the various business solutions.

The following assumptions and inputs were used to model the cash flow of the decarbonization plan:

- Energy Efficiency
- Solar PV and Battery Storage
- Transportation Electrification
- Equipment Replacements and Operation Cost Reserves

FISCAL IMPACT

Seeking City Council direction on business plan option. Will return in the future seeking funding to support City Council's direction.

ENVIRONMENTAL IMPACT

This action is exempt from the California Environmental Quality Act (CEQA) because it is not a project which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, pursuant to CEQA Guidelines Section 15378.

BOARD/COMMISSION/COMMITTEE REVIEW AND RECOMMENDATIONS

On September 22, 2020, TPW briefed the Climate Action Subcommittee on the status and details of the proposed study. The Subcommittee provided comments and supported TPW in bringing this proposal to City Council.

NOTIFICATION

Not applicable.

ATTACHMENTS

- Attachment 1 – Energy Audit and Microgrid feasibility study
- Attachment 2 – Business plan analysis

CONTACT

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