



CITY OF GLENDALE, CALIFORNIA REPORT TO THE CITY COUNCIL

AGENDA ITEM

Report: Resolution authorizing GWP, to prepare a Request for Proposal using the Alternative Project Delivery Method for the Engineer-Procure-Construct of City-owned PV Solar Projects – Phase 1.

1. Resolution authorizing the General Manager of GWP, or his designee, to prepare a Request for Proposal (RFP) using the Alternative Project Delivery Method for the Engineer-Procure-Construct (EPC) of Solar PV Systems at the following proposed project sites: 1) Glendale Sports Complex Parking Lot, 2) Montrose Parking Lot 3, 3) Utility Operations Parking Lot, 4) Brand Landfill, 5) Fire Station 21, 6) Glendale Central Library, 7) GWP Perkins Building, and 8) Dunsmore Park Parking Lot, and authorizing the City Clerk to solicit proposals.

COUNCIL ACTION

Item Type: Action Item

Approved for March 7, 2023 **calendar**

EXECUTIVE SUMMARY

In July 2021, GWP began working with consultant, Black & Veatch, to identify the viability of installing solar PV systems on city owned properties, and to conduct a comprehensive analysis of the DER hosting capacity of the electrical distribution infrastructure.

The solar PV scope of the project included a list of 101 City-owned properties which were evaluated following a multi-step approach to determine if the conditions of the sites allowed for further consideration for installing solar. The process included an in-depth analysis of current site conditions, solar modeling, structural and engineering reviews, and permitting considerations to determine if each site were to be included in the final list of viable sites for solar. Upon completion of the study in August 2022, 65 sites were identified as viable locations for solar PV installations.

The DER hosting capacity scope of the project analyzed the entire electrical distribution network to identify the maximum amount of distributed PV penetration levels for each of the 100+ distribution feeders. The intent of the DER hosting capacity study was to identify the hosting capacity ranges for each distribution feeder and to establish the maximum DER capacity without affecting the systems reliability or power quality.

COUNCIL PRIORITIES

Environmental Stewardship: GWP is continuously working towards providing cost-effective and sustainable energy to its commercial, business, and residential customers to meet the renewable and clean energy procurement and emission reduction goals.

RECOMMENDATION

Approve a resolution authorizing the General Manager of GWP to prepare an RFP using the Alternative Project Delivery Method for the EPC of Solar PV Systems at the Glendale Sports Complex Parking Lot, Montrose Parking Lot 3, Utility Operations Center Parking Lot, Brand Landfill, Fire Station 21, Glendale Central Library, GWP Perkins Building, and Dunsmore Park Parking Lot, and authorizing the City Clerk to solicit proposals.

BACKGROUND

GWP's mission is to provide clean, reliable, and affordable power to the diverse citizens and businesses of Glendale 24 hours per day, 365 days per year. This objective is currently met with a portfolio of demand-side and supply-side resources. Supply-side resources include local gas-fired generation from the aging Grayson Power Plant; local distributed solar generation; distant coal fired, hydro, nuclear, and renewable energy supplies, and a portfolio of transmission ownership rights and long-term transmission lease rights. GWP operates within the Balancing Area of the Los Angeles Department of Water and Power (LADWP) under a Balancing Authority Area Services Agreement with LADWP. Glendale is forging a leadership position in the acquisition of renewable energy and carbon allowances in both the short term and long-term markets.

GWP is faced with the imminent retirement of its largest generation resource, the natural gas-fired Grayson Power Plant. GWP is extremely transmission constrained and is in the process of replacing the retiring Grayson units with reliable local generation. The retirement of Grayson presents GWP with an opportunity to shift to cleaner, more efficient technology to power the city in the future.

The conclusion of the Solar PV Development on City Owned Properties and DER Hosting Capacity Analysis Project in August of 2022 provided staff with a list of 65 City owned properties that are deemed viable for solar. GWP staff has since been partnering with its internal departmental peers to review and edit the conceptual designs based on operational needs for the sites, and determine which sites are available for solar installations in the short term.

ANALYSIS

This project is a part of a multi-phased solar PV system installation program that includes other sites such as Scholl Canyon Landfill. Although, the plans for the installation of a solar PV system at the Scholl Canyon Landfill will be considered in future phases, Staff did perform a review of the Watershed Geo Closure Turf technology shared by the community members with GWP regarding the potential solutions for the Scholl Canyon Landfill cap and solar installations.

Staff requested Black & Veatch's professional opinion of the Watershed Geo Closure Turf technology, which included the following:

- This technology could be a responsible investment for the Scholl Canyon Landfill cover while also providing an excellent foundation for the associated solar technology offered by the company.
- Finding a sufficient quantity of soil material for a landfill cover may be expensive.
- The overall maintenance costs could be a responsible investment.
- A life cycle cost analysis should be conducted to include evaporative landfill covers, which are viable options in California

Furthermore, consideration of the Watershed Geo Closure Turf technology at the Scholl Canyon Landfill will require a coordinated effort between the two agencies responsible for the landfill closure, Los Angeles County Sanitation District and Glendale Public Works. The decision to implement the Watershed Geo Closure Turf technology would then be further analyzed and compared to other available landfill cover systems.

Regardless of the selected landfill cover and solar technology for the closed portions of Scholl Canyon Landfill including the Edison Arm, GWP will need to engineer and construct 69kV electrical sub-transmission infrastructure to the closed portions of the landfill. The planning and engineering for this activity will need to be budgeted in future Capital Improvement Projects to align with the timeframe in which the Los Angeles County Sanitation District releases the closed landfill areas to the City of Glendale.

The planning and coordination required for the Scholl Canyon Landfill cover and solar project will follow the same process as the 60+ City-owned properties that have been already identified. GWP recognizes the fact that there is a great opportunity to maximize solar system installation on City-owned properties. The ongoing coordination between GWP and its interdepartmental peers has revealed several important factors to address before investing in solar systems on City owned properties:

- Roof condition and roof replacement schedules.
- Parking lot conditions and upcoming resurfacing projects.
- Future reconstruction plans for parking lots, buildings, and parks.
- Electric distribution upgrades needed to support solar installations in locations where distribution feeders do not currently exist or need additional capacity.
- Historical preservations considerations.
- Impact on community usage of facilities.

For these reasons, it is GWP's opinion that the most aggressive approach to growing its clean energy portfolio is by implementing a phased approach to its solar development program. This will allow GWP to immediately develop solar PV systems on properties that do not have any conflicting projects or needed repairs while concurrently planning and coordinating the next phases of solar development in alignment with the "solar readiness" of the properties. During the implementation of the Phase 1 project, GWP will be concurrently working on the site readiness and RFP development for Phase 2. Moving forward now with "solar ready" properties will also allow GWP to take advantage

of the Inflation Reduction Act (IRA) Investment Tax Credit, which requires projects to begin before 2025. Taking advantage of these tax credit programs aligns with GWP's commitment to delivering cost-effective energy solutions to its rate payers.

Proposed Phase 1 Projects:

The eight solar PV systems described below are estimated to provide 4.4 MW of solar power representing 31% of the total estimated 14 MW of viable solar installations on City-owned properties. The total estimated annual output for these eight sites is 7.3 million kWh, which is the equivalent to the average annual electric consumption of 656 homes.

On February 14, 2023, the General Manager of GWP obtained the City Manager's approval for the herein proposed procurement for these eight proposed projects, as required by Glendale Municipal Code (GMC), Section 4.13.070. Staff is recommending that the City Council authorize the adoption and issuance of an RFP for these eight proposed projects utilizing the Engineer Procure Construct (EPC) project delivery method. GWP staff has found that it is more efficient to use the EPC method for such projects because the time needed for the research and design phases can be reduced with a similar outcome in the final construction. By using the EPC method, design items can be addressed as they come up by the engineer-procure-construct entity without the need for delays in engineering, then procurement, and lastly construction that occur using the traditional design-procure-bid-build project delivery method.

1. Glendale Sports Complex Parking Lot Solar PV Carport Canopy Project:

This conceptual site plan estimates a solar PV system size of 916 kW. The solar solution for this location utilizes carport style solar canopies and is designed to cover most of the parking spaces at the Sports Complex. Estimated cost is \$3 million.

2. Montrose Parking Lot 3 Solar PV Carport Canopy Project:

This conceptual site plan estimates a solar PV system size of 807 kW. The solar solution for this location utilizes carport style solar canopies and is designed to cover most of the parking spaces at Montrose Parking Lot 3. Estimated cost is \$2.7 million.

3. Utility Operations Center (UOC) Parking Lot Solar PV Carport Canopy Project:

This conceptual site plan estimates a solar PV system size of 305 kW. The solar solution for this location utilizes carport style solar canopies and is designed to cover most of the parking spaces at the UOC Parking Lot. Estimated cost is \$1 million.

4. Brand Landfill Ground Mount Solar PV Project:

This conceptual site plan estimates a solar PV system size of 1.4 MW. This location is the largest site identified as being viable for solar and has the potential of delivering ten percent of the total estimated 14 MW of solar power. The landfill has been closed for over three decades. The solar solution for this location utilizes ground mount solar panels secured by means of an anchoring design. Estimated cost is \$4.6 million.

5. Fire Department Station 21 Rooftop and Carport Canopy Solar PV Project:
This conceptual site plan estimates a solar PV system size of 237 kW. The solar solution for this location utilizes both rooftop-mounted and carport style solar canopies. It is designed to maximize rooftop coverage and to cover some of the parking inside the facility. Estimated cost is \$800 thousand.

6. Glendale Central Library Rooftop Solar PV Project:
This conceptual site plan estimates a solar PV system size of 402 kW. The solar solution for this location utilizes rooftop-mounted solar and is designed to maximize coverage. The Central Library is currently undergoing a roof redesign and reroofing project, which will be completed prior to the solar PV installation. Estimated cost is \$1.3 million.

7. GWP Perkins Building Rooftop Solar PV Project:
This conceptual site plan estimates a solar PV system size of 155 kW. The solar solution for this location utilizes rooftop mounted solar, designed to maximize coverage. Estimated cost is \$500 thousand.

8. Dunsmore Park Parking Lot Carport Solar PV Project:
This conceptual site plan estimates a solar PV system size of 221 kW. The solar solution for this location utilizes carport solar, designed to maximize solar potential in the parking lot. Public Works and Community Service & Parks have a concurrent parking lot resurfacing project, which planned to take place after the carport solar system is installed. Estimated cost is \$750 thousand.

STAKEHOLDERS/OUTREACH

GWP will conduct outreach as each of the projects are designed and ready to be built.

FISCAL IMPACT

The estimated cost for the first phase of the City Owned Solar Development Program is \$14,650,000, which will be requested as a part of the annual budget process.

ENVIRONMENTAL REVIEW

The requested action herein which is authorization to issue the RFP and solicit proposals does not require environmental review. Environmental review will be conducted for each project as applicable.

CAMPAIGN DISCLOSURE

Not applicable.

ALTERNATIVES

Alternative 1: Authorize the General Manager of GWP to prepare an RFP using the Alternative Project Delivery Method for the EPC of City-owned Solar PV Systems Project – Phase 1 and authorizing the City Clerk to solicit proposals.

Alternative 2: Do not authorize the issuance of an RFP for installation of Solar PV Systems on City-owned properties project, Phase 1 which will delay the implementation of clean energy programs.

Alternative 2: Consider any other alternative not proposed by staff.

ADMINISTRATIVE ACTION

Prepared by:

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Approved by:

Roubik R. Golanian, P.E., City Manager

EXHIBITS / ATTACHMENTS

Exhibit A: City Owned Solar PV Priority List - Eight Conceptual Images

Exhibit B: February 14, 2023, Memo to City Manager and City Manager approval of the Engineer Procure Construct project delivery method.