

# RIVERSIDE PUBLIC UTILITIES

## Board Memorandum

**BOARD OF PUBLIC UTILITIES**

**DATE:** JANUARY 14, 2019

**ITEM NO:** 13

**SUBJECT:** HUNTER SUBSTATION REPLACEMENT PROJECT - WORK ORDER NO. 1826767 IN THE AMOUNT OF \$2,000,000

**ISSUE:**

Approve Work Order No. 1826767 in the total amount of \$2,000,000 for work associated with the Hunter Substation Replacement Project.

**RECOMMENDATION:**

That the Board of Public Utilities approve Work Order No. 1826767 in the total amount of \$2,000,000 for work associated with the Hunter Substation Replacement Project.

**BACKGROUND:**

Hunter Substation is located at 1731 Marlborough Avenue and serves approximately 4,700 customers comprised of residents and businesses within the Hunter Industrial Park and Northside communities north of the 215/60/91 Freeway interchange. Hunter Substation is in dire need of replacement.



*Hunter Substation*

A seismic study was conducted and presented to the Board of Public Utilities (Board) in April 2011. Subsequently, an in-depth study was performed in 2013. That study recommended replacement of the majority of the 69 kilovolt (kV) bus structures because they were beyond rehabilitation. Additionally, the substation's 69kV bus configuration is a segmented design with minimal switching options that translates

into a poor reliability factor. The combination of the aging equipment, deteriorated 69kV bus structures, and bus configuration poses electrical reliability and safety risks.

In 2014, circuit breaker 52-3, which had exceeded its design life, failed in service and resulted in a near miss incident.

In 2017, Riverside County's Local Hazard Mitigation Plan for the City of Riverside called out Hunter Substation's seismic retrofit as a high priority infrastructure project.

Currently, in 2018, the electrical capacity of the Substation is nearing its maximum design capacity. The 10-year load forecast in this area is 20-25 megawatts. The Substation does not have the electrical or physical capacity to serve the forecasted load.

## **DISCUSSION:**

Riverside Public Utilities (RPU) is committed to providing safe and reliable energy service for all customers. The replacement of Hunter Substation is aligned with this philosophy.

Hunter Substation currently has very limited physical space. Transferring the electrical loads to nearby substations is not possible due to the limited capacity of the nearby substations. As such, demolishing the Substation to make room to construct a new station is not a viable option. Electric Engineering Division staff determined that a replacement substation can be constructed adjacent to the existing substation while it continues to serve customers. On February 12, 2018, the Board approved the purchase of land west of the substation to facilitate this project.



*New acquired land*

The new substation will be constructed on the newly acquired land, so that the existing facilities can remain in service during construction. The new substation will have four sub-transmission lines and four transformers with a total planned capacity of 125 megavolt amperes (MVA). The existing sub-transmission lines entering and leaving the substation will be reconfigured to terminate at the new structures. New distribution vaults and underground structures will be installed to tie to the existing distribution circuits. Four new distribution circuits will be added to accommodate future loads and alleviate overloading of neighboring Riverside and University substations.

The new substation project timeline is planned as follows: 1) prepare bids by August 2019; 2) award contract by end of 2019; and 3) complete construction by end of 2022.

At this time, Board approval is requested for a portion of the project to develop the preliminary design, prepare the California Environmental Quality Act (CEQA) and hire a consultant to act as an owner engineer throughout the project. Staff will return to the Board for the approval of the construction phase in November 2019.

The project/cost breakdown for the Hunter Substation Replacement Project is proposed as follows:

<b>Project and Fiscal Breakdown</b>		
Work Type	Performed By:	Amount (\$)
Project Management and Engineering	RPU Engineering Staff/Firm from consultant panel	\$500,000
Owner Engineer (Preliminary designs, CEQA, inspection services, construction management)	RPU Substation Electrician/Firm from consultant panel	\$1,500,000
Construction:	Contractor	TBD
<b>Work Order Total:</b>		<b>\$2,000,000</b>
<b>Anticipated Start Date:</b>		<b>January 2019</b>
<b>Anticipated Duration:</b>		<b>3.5 years</b>

In general, substation related outages impact a greater number of customers when compared to outages that result from the failure of overhead or underground equipment. When substation monitoring or engineering analysis identifies an existing or potential problem with substation equipment, priority is given to remedy the situation over other efforts that focus on overhead or underground equipment. Funding for this project will be transferred from the current year's Cable Replacement and Neighborhood Street Light Retrofit Accounts to the Substation Bus & Upgrade Account based upon those priorities.

### **FISCAL IMPACT:**

The total fiscal impact is \$2,000,000. Following the transfer of \$1,000,000 in funding from the Cable Replacement Account and \$1,000,000 in funding from the Neighborhood Street Light Retrofit Account, sufficient funding will be available in Public Utilities Substation Bus & Upgrade Account No. 6130100-470616.

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Attachment: Project Site Map