



RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES

DATE: APRIL 24, 2017

ITEM NO: 5

SUBJECT: RIVERSIDE SUBSTATION TO HUNTER SUBSTATION FIBER OPTIC CABLE NETWORK- WORK ORDER NO. 1423750 IN THE AMOUNT OF \$465,000

ISSUE:

Approve Work Order No. 1423750 in the amount of \$465,000 to build a fiber optic cable network between Riverside Substation and Hunter Substation to improve capacity, reliability, and redundancy.

RECOMMENDATION:

That the Board of Public Utilities approve Work Order No. 1423750 in the amount of \$465,000.

BACKGROUND:

On July 11, 2016, the Board of Public Utilities received the Planned Routine Electric and Water Capital Projects Over \$500,000 in Fiscal Year 2016/17 report. The report provides an overview of the routine infrastructure projects and highlights the importance of these capital improvement projects. Discussion of these projects provided context and familiarity to streamline Board approval of individual project actions throughout the fiscal year.

Riverside Public Utilities (RPU) operates an advanced broadband fiber optic cable based network to communicate between its substations and control centers for the operation of the electric grid. Fiber network infrastructure is instrumental to the reliability and security of the electrical system. In addition, the IT department utilizes the network infrastructure to serve all City of Riverside departments with computer based information systems, e-mail, internet, intranet, and telephone services.

In January 22, 2016, the Board approved Magellan Advisors (Magellan) dark fiber business plan and roadmap for enhanced broadband communications in Riverside. Magellan provided a plan for enhancement of RPU's business practices and expansion of our dark fiber offerings. The City, through RPU, is not proposing to operate a municipal fiber network and sell internet service to residents, as it does with the water, electric, refuse and sewer utility services that the City provides to residents.

Rather, the City is leasing out unused strands of fiber from its existing broadband fiber-optic cable based network to third parties who have ready access to this existing fiber network. RPU built the network to provide voice, data, electric system protection, and control services to RPU facilities. RPU has many locations and paths throughout the City where it owns excess fiber. This excess fiber is not connected to electronic switches at either end, rendering it "dark". Currently, RPU leases some of these excess fibers to third parties who install the electronics to "light" the fiber for communication use. These businesses can then use the existing fibers to "light" the fiber for internet and communication use. The first phase of this dark fiber leasing program has been funded by revenue from the existing leases for the dark fiber network. Any future expenditures of ratepayer funds for the dark fiber network will be in compliance with Prop. 26.

DISCUSSION:

RPU does not have a direct fiber optic cable route between Riverside and Hunter Substations located at the North end of the City. The existing route travels from Riverside Substation to Hunter Substation via other facilities including City Hall.

The existing fiber infrastructure is aging and deteriorating. The existing fiber optic cables follow a common route through one vault. A failure in this vault or along the common underground route could result in an extended interruption of city-wide information and communications services until repairs can be completed.

Adding a new direct fiber optic cable route between Riverside Substation and Hunter Substation will improve capacity, reliability, and redundancy of the fiber network system. Also, the new route will provide RPU with the opportunity to expand its existing dark fiber business to benefit the community.

Work Order No. 1423750 includes engineering, design, equipment procurement, construction, installation, testing and commissioning of the fiber optic network. Engineering, design, and testing will be performed by RPU staff. Construction and installation of the fiber optic network will be performed by RPU staff and contractors.

The project breakdown is proposed as follows:

Project Breakdown	
Engineering Performed By: RPU	\$52,000
Material and Equipment Procured By: RPU	\$38,000
Fiber Installation Performed By: RPU / Contractor	\$310,000
Fiber Termination/Testing/Project Contingency Performed By: RPU	\$65,000
Anticipated Start Date:	April 2017
Anticipated Construction Duration:	Four Months
Coordination Required with	Public Works

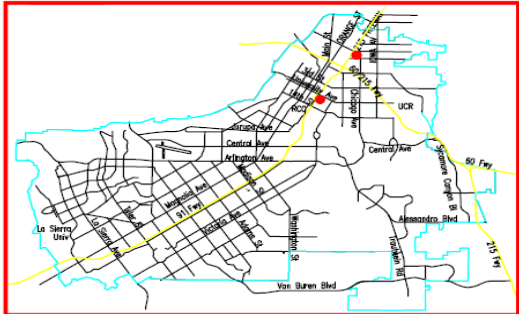
FISCAL IMPACT:

Sufficient funds of \$465,000 are available in the Public Utilities' City Wide Communication Account No. 6130000 – 470664.

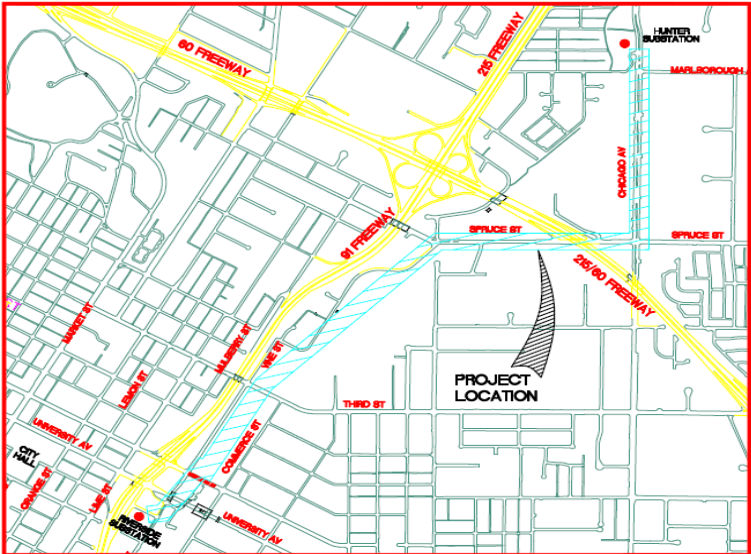
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CITY
OF
RIVERSIDE



CITY MAP



RIVERSIDE TO HUNTER SUBSTATION
FIBER INSTALLATION