



RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES

DATE: SEPTEMBER 4, 2015

ITEM NO: 11

File ID – 15-2815 – D

SUBJECT: PLANNED ROUTINE PROJECTS OVER \$500,000 FOR ELECTRIC AND WATER CAPITAL PROJECTS FOR FISCAL YEAR 2015/16 – \$24,992,000

ISSUE:

The issue for Board of Public Utilities consideration is to receive a report highlighting capital improvement projects over \$500,000 planned for Electric and Water for fiscal year 2015/16 with a combined total budget of \$24,992,000

RECOMMENDATION:

That the Board of Public Utilities receive this report highlighting planned Electric and Water capital improvement projects over \$500,000 for a combined total of \$24,992,000 for fiscal year 2015/16.

BACKGROUND:

On April 17, 2015 the Board of Public Utilities (Board) voted to recommend that the City Council approve the Electric and Water annual Capital Improvement Program (CIP) budget funds for fiscal year (FY) 2015/16, including a capital outlay of \$30.6 million for the electric system and \$16.1 million for the water system. The City Council approved the annual budget for FY 2015/16 at their meeting on June 23, 2015.

The purpose of this report, and the accompanying presentation, is to provide the Board an overview of the routine infrastructure projects over \$500,000 planned for FY 2015/16, and to highlight the importance of these projects. Discussion of these projects at the beginning of the fiscal year will provide context and familiarity to streamline Board approval of individual project actions throughout the fiscal year.

The projects to be presented and discussed include the following:

No.	Electric	
E1	Riverside Water Quality Control Plant Service Upgrade	\$700,000
E2	GO 165 Replacement of 80 Poles (various locations)	\$1,200,000
E3	Substation LTC Replacements	\$3,200,000
E4	Substation Relay and 69kV Breaker Replacement (two locations)	\$1,550,000
E5	Substation 12kV Relay/Breaker Upgrade (three locations)	\$3,000,000
E6	La Colina Substation Transformer Addition	\$2,000,000
E7	Mobile Substation #3	\$2,000,000
E8	Magnolia Substation Demolition (MPRP)	\$500,000
E9	Neighborhood Streetlight Retrofit (Wood Streets Area 2)	\$1,900,000
E10	Cable Replacement (Canyon Crest Area 1E & 2)	\$3,747,000
E11	Plaza 4-12kV Conversion	\$1,325,000
E12	Orangecrest-Freeman Fiber Upgrade	\$1,400,000
E13	Orangecrest-La Colina, Alessandro-Sycamore Cyn Fiber Upgrade	\$1,250,000
E14	Land Mobile Radio (LMR) – Dispatch Radio Upgrade	\$1,700,000

E1 – Riverside Water Quality Control Plant Service Upgrade

Service upgrade required to meet electrical demand of expanded and upgraded treatment plant. Upgrade will service new technologies designed to produce high quality effluent water and increase the plant's efficiency in meeting the need of future generations.

E2 – GO 165 Replacement of 80 Poles (various locations)

Replacement of 80 existing wood poles in various locations based upon the results of intrusive pole inspections. Detailed inspections identify poles which are at risk of failure and have the potential of becoming a public safety hazard and adversely affect the electric system's reliability.

E3 – Substation LTC Replacements

Replace nine aging and obsolete Load Tap Changers (LTC's) at Freeman, Hunter, Orangecrest, La Colina, Riverside, Springs and University Substations. Replacements and upgrades benefit a large service area of customers (approximately 22,000 residents per substation) and also introduce new technology which improves reliability and reduces prolonged outages.

E4 – Substation Relay and 69kV Breaker Replacement (two locations)

Replace aging and obsolete relays and 69kV breakers at Springs and Orangecrest Substations. Replacements and upgrades benefit a large service area of customers (approximately 22,000 residents per substation) and also introduce new technology which improves reliability and reduces prolonged outages.

E5 – Substation 12kV Relay/Breaker Upgrade (three locations)

Replace aging and obsolete 12kV relays and breakers at Freeman, Mountain View and Springs Substations. Replacements and upgrades benefit a large service area of customers (approximately 22,000 residents per substation) and also introduce new technology which improves reliability and reduces prolonged outages.

E6 – La Colina Substation Transformer Addition

Replaces two non-standard, 50-year old power transformers with modern, higher capacity power transformers. Upgraded equipment will improve reliability to the Canyon Crest and Victoria neighborhoods and provide additional service capacity for potential load growth peripheral to the University of California at Riverside campus.

E7 – Mobile Substation #3

Construction of a third mobile substation to utilize in the event of a failure or extended repair of an existing power transformer at an electric substation. Existing Mobile Substations #1 and #2 remain functional but do not meet the capacity standards of more recently installed substation transformers. Utilization of the mobile substations markedly decreases the outage duration resulting from a substation power transformer failure or major equipment failure.

E8 – Magnolia Substation Demolition (MPRP)

Demolition and site clean-up of the 65-year old substation that served Magnolia Center and surrounding areas. Conversion of area circuitry from 4kV to the modern 12kV system and installation of additional 69-12kV power transformer capacity at nearby Plaza Substation makes this station obsolete. In addition to new circuitry and transformation, equipment will also utilize advanced technology for improved reliability and outage management for the area.

E9 – Neighborhood Streetlight Retrofit (Wood Streets Area 2)

Installation of approximately 200 new concrete light standards and new acorn type LED light fixtures in designated Area 2, west of Magnolia Avenue. Rebuild of the area street lights results in a more energy efficient system and also dramatically reduces the incidence of street light outages.

E10 – Cable Replacement (Canyon Crest Area 1E & 2)

Replacement of obsolete High Molecular Weight Polyethylene (HMPE) cable-in-conduit (CIC) in the Canyon Crest residential service area. Canyon Crest area residents experienced the highest incidence

of cable failures of any area in the City over the past 10 years and have been prioritized first for cable replacement to enhance reliability. During the time of cable replacement, associated terminations and switching equipment will also be replaced and brought up to current standards.

E11 – Plaza 4-12kV Conversion

Conversion of circuitry in the Magnolia Center and Wood Streets areas from 4kV to the modern 12kV system. Area circuitry is 50-years old and modernization to current standard cable and associated equipment as well as implementation of advanced technology will improve circuit reliability and outage restoration time for area customers.

E12 – Orangecrest – Freeman Fiber Upgrade

Upgrade of fiber optic cable from 12 to 144 count fiber along the Orangecrest-Freeman fiber path. Existing 12 count fiber optic cable is at the end of its life cycle and at full capacity. The upgrade will provide the capability to re-route existing traffic in the event of a fiber break on the east side of the city and increases fiber optic circuits and reliability for RPU, City departments and other public government agencies.

E13 – Orangecrest–La Colina, Alessandro-Sycamore Cyn Fiber Upgrade

Upgrade of fiber optic cable from 12 to 144 count fiber along the Orangecrest-La Colina and Alessandro-Sycamore Canyon fiber paths. Existing 12 count fiber optic cable is at the end of its life cycle and at full capacity. The upgrade will provide the capability to re-route existing traffic in the event of a fiber break on the east side of the city and increases fiber optic circuits and reliability for RPU, City departments and other public government agencies.

E14 – Land Mobile Radio (LMR) – Dispatch Radio Upgrade

Upgraded wireless communications system providing citywide coverage. LMR technology provides reliable system service in the event of a natural disaster that would prevent cellular service, improved crew safety, voice quality and channel sharing as well as a higher level of encryption security and a larger coverage area compared to analog at a low radio frequency.

No.	Water	
W1	Arlington and Western Water Main Replacement	\$1,220,000

W1 – Arlington and Western Water Main Replacement

This project is part of Riverside Public Utilities' (RPU) ongoing water main replacement program to replace old, undersized and high priority leaky water mains. The project area generally consists of existing 4-inch and 8-inch steel and asbestos cement (AC) pipelines that were installed between 1948 and 1962 and have experienced several leaks. The existing water pipelines will be replaced with approximately 3,400 linear feet of new 8-inch and 12-inch ductile iron pipelines. This project will increase the reliability of the water system and enhance fire flow.

Subsequent approval of the above identified projects will be considered by the Board at future meetings throughout FY 2015/16. Reports will reference this review by the Board.

FISCAL IMPACT:

There is no fiscal impact associated with this report. The availability of budgeted funds will be confirmed as individual project actions are considered by the Board throughout FY 2015/16.

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